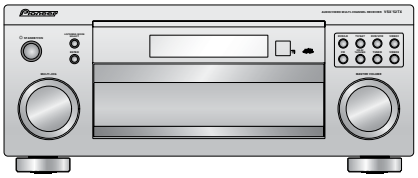
Pioneer sound.vision.soul

Service Manual



VSX-52TX

ORDER NO.
RRV2977

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-52TX
VSX-1014TX-K

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
VSX-52TX	KUXJ/CA	AC120V	
VSX-1014TX-K	KUXJC	AC120V	

For details, refer to "Important symbols for good services".

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ⓒ**PIONEER CORPORATION 2004**

T-ZZR JUNE 2004 printed in Japan

SAFTY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

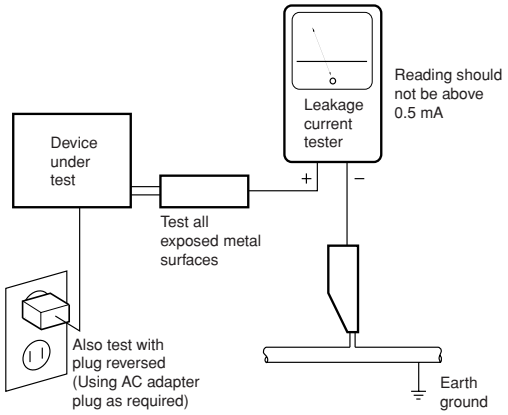
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Reading should not be above 0.5 mA
Leakage current tester
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

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1. SPECIFICATIONS

Specifications

Amplifier section

Continuous average power output of 110 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.09% total harmonic distortion (front).**

Continuous Power Output

Front .....110 W + 110 W (20 Hz-20 kHz, 0.09%)
Center .....110 W (20 Hz-20 kHz, 0.09%)
Surround .....110 W + 110 W (20 Hz-20 kHz, 0.09%)
Surround back .....110 W + 110 W (20 Hz-20 kHz, 0.09%)

Audio Section

Input (Sensitivity/Impedance)
LINE ..... 335 mV/47 kΩ
Frequency Response
LINE ..... 5 Hz to 100,000 Hz $^{+0}_{-3}$ dB
Output (Level/Impedance)
REC 335 mV/2.2kΩ
Tone Control
BASS ..... ± 6 dB (100 Hz)
TREBLE ..... ±6 dB (10 kHz)
LOUDNESS ..... +4/+2 dB (100Hz/10 kHz)
(at volume position –40dB)
Signal-to-Noise Ratio (IHF, short circuited, A network)
LINE .....103 dB
Signal-to-Noise Ratio [EIA, at 1W (1kHz)]
LINE .....83 dB

* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers
** Measured by Audio Spectrum Analyzer

Composite Video / S-Video Section

Input (Sensitivity/Impedance) 1 Vp-p/75Ω
Output (Level/Impedance) 1 Vp-p/75Ω
Signal-to-Noise Ratio ..... 65 dB
Frequency Response ..... 5 Hz to 10 MHz $^{+0}_{-3}$ dB

Component Video Sectio

Input (Sensitivity/Impedance) 1 Vp-p/75Ω
Output (Level/Impedance) 1 Vp-p/75Ω
Signal-to-Noise Ratio ..... 65 dB
Frequency Response ..... 5 Hz to 40 MHz $^{+0}_{-3}$ dB

FM Tuner Sectio

Frequency Range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... Mono: 13.2 dBf, IHF (1.3 µV/75Ω)
50 dB Quieting Sensitivity ..... Mono: 20.2 dBf
Stereo:38.6 dBf
Signal-to-Noise Ratio ..... Mono: 73 dB (at 85 dBf)
Stereo: 70 dB (at 85 dBf)
Distortion ..... Stereo: 0.5% (1 kHz)
Alternate Channel Selectivity ..... 60 dB (400 kHz)
Stereo Separation ..... 40 dB (1 kHz)
Frequency Response ..... 30 Hz to 15 kHz ± 1dB
Antenna Input ..... 75Ω unbalanced

AM Tuner Sectio

Frequency Range ..... 530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna) ..... 350 µV/m
Selectivity ..... 25 dB
Signal-to-Noise Ratio ..... 50 dB
Antenna ..... Loop antenna

Miscellaneous

Power Requirements ..... AC 120 V, 60 Hz
Power Consumption ..... 480 W, 630 VA
In standby ..... 0.43 W
AC Outlet ..... (switched) 100 W MAX.
Dimensions ..... 420 (W) x 173 (H) x 465 (D) mm
($16\,^{9}/_{16}$ (W) x $6\,^{13}/_{16}$ (H) x $18\,^{5}/_{16}$ (D) in.)
Weight (without package) .....15.5 kg (34.2 lb)

Furnished Parts

Microphone (for Auto MCACC setup) 1
Microphone stand 1
AA/LR6 dry cell batteries 2
Remote control 1
AM loop antenna 1
FM wire antenna 1
Warranty card 1
These operating instructions 1

Note

- Specifications and the design are subject to possible modifications without notice, due to improvements.

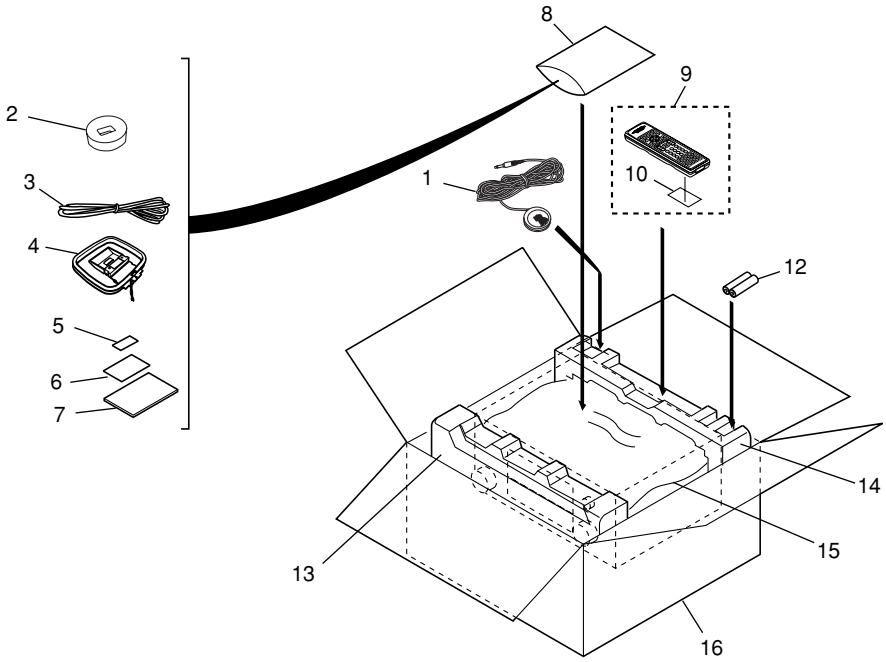
Cleaning the uni

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surface is dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleansers.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surface.

2. EXPLODED VIEWS AND PARTS LIST

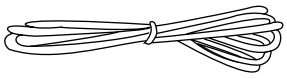
NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING

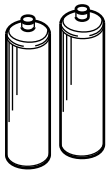


● Accessories

AM Loop Antenna
(ATB7013)

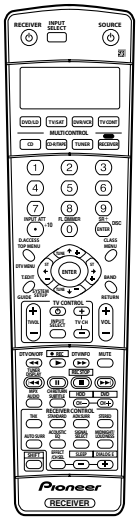


FM Wire Antenna
(ADH7030)

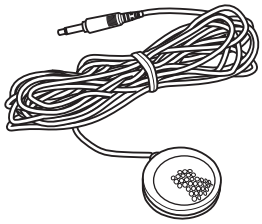


"AA" IEC LR6 batteries

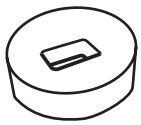
Operating Instructions
(VSX-52TX : ARB7302)
(VSX-1014TX-K : ARB7305)



Remote Control Unit
(AXD7381)



Microphone for Auto
Surround Sound Setup
(APM7004)



Microphone Stand for Auto
Surround Sound Setup
(AEB7269)

(1) PACKING parts List

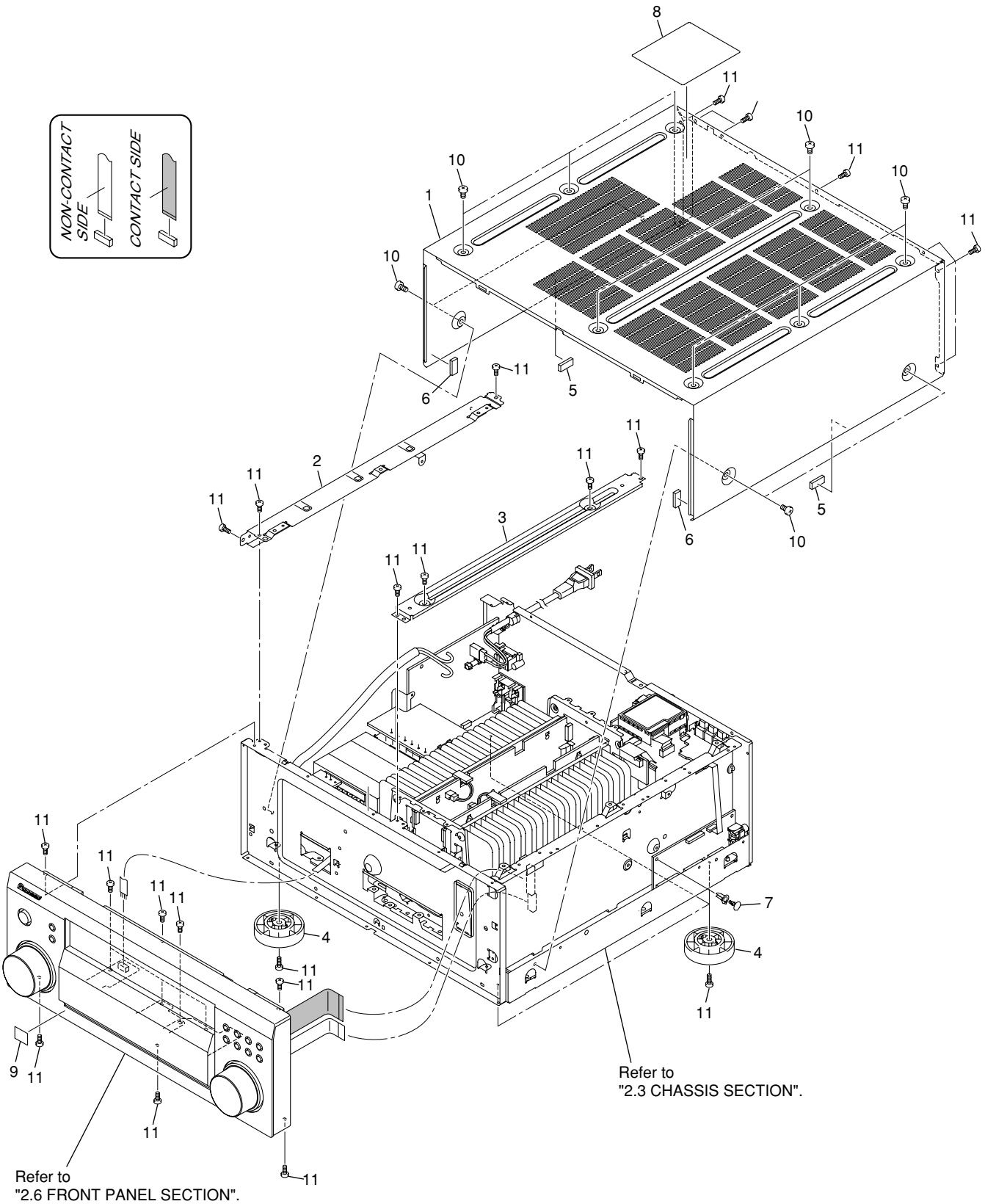
Mark	No.	Description	Part No.
	1	Microphone for Auto Surround Sound Setup	APM7004
	2	Microphone Stand for Auto Surround Sound Setup	AEB7269
	3	FM Wire Antenna	ADH7030
	4	AM Loop Antenna	ATB7013
	5	Caution Sheet SP,E	ARM7083
NSP	6	Warranty Card 106 See Contrast table (2)	
	7	Operating Instructions (English)	See Contrast table (2)
NSP	8	Literature Bag	AHG1180
	9	Remote Control Unit	AXD7381
	10	Battery Cover	XZN3140
	11	• • • •	
NSP	12	"AA" IEC LR6 batteries	VEM1023
	13	Front Pad V1	AHA7428
	14	Rear Pad V1	AHA7429
	15	Packing Sheet	RHC1023
	16	Packing Case	See Contrast table (2)

(2) CONTRAST TABLE

VSX-52TX/KUXJ/CA and VSX-1014TX-K/KUXJC are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-52TX /KUXJ/CA	VSX-1014TX-K /KUXJC
NSP	6	Warranty Card	ARY7007	ARY7045
	7	Operating Instructions (English)	ARB7302	ARB7305
	16	Packing Case 52KU	AHD8255	Not used
	16	Packing Case 1014KU	Not used	AHD8256

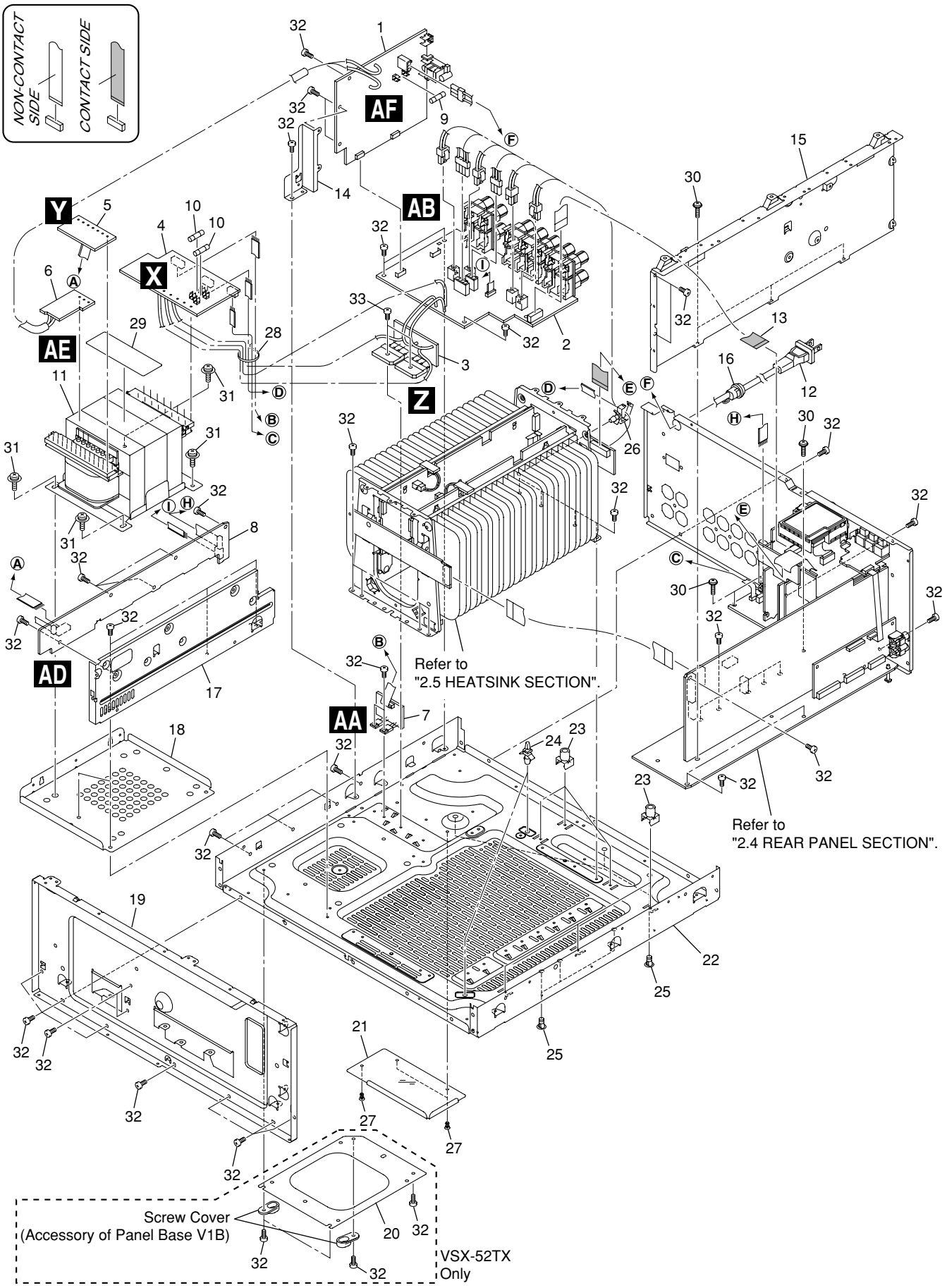
2.2 EXTERIOR SECTION



(1) EXTERIOR SECTION parts List

Mark	No.	Description	Part No.
	1	Bonnet Case V1B	AZN7980
	2	Left Beam	ANG7401
	3	Center Beam	ANG7482
	4	Insulator	PNW2766
	5	Spacer (4.5 x 10 x 20)	AEB7355
	6	Spacer 45B (6 x 7 x 13)	AEB7264
	7	Nyron Rivet	AEC7408
	8	Label (DD/DTS/THX)	ARW7281
NSP	9	Energy Star Label	AAX8022
	10	Screw	BBZ40P080FZK
	11	Screw	BBZ30P080FCC
	12	• • • •	

2.3 CHASSIS SECTION



(1) CHASSIS SECTION parts List

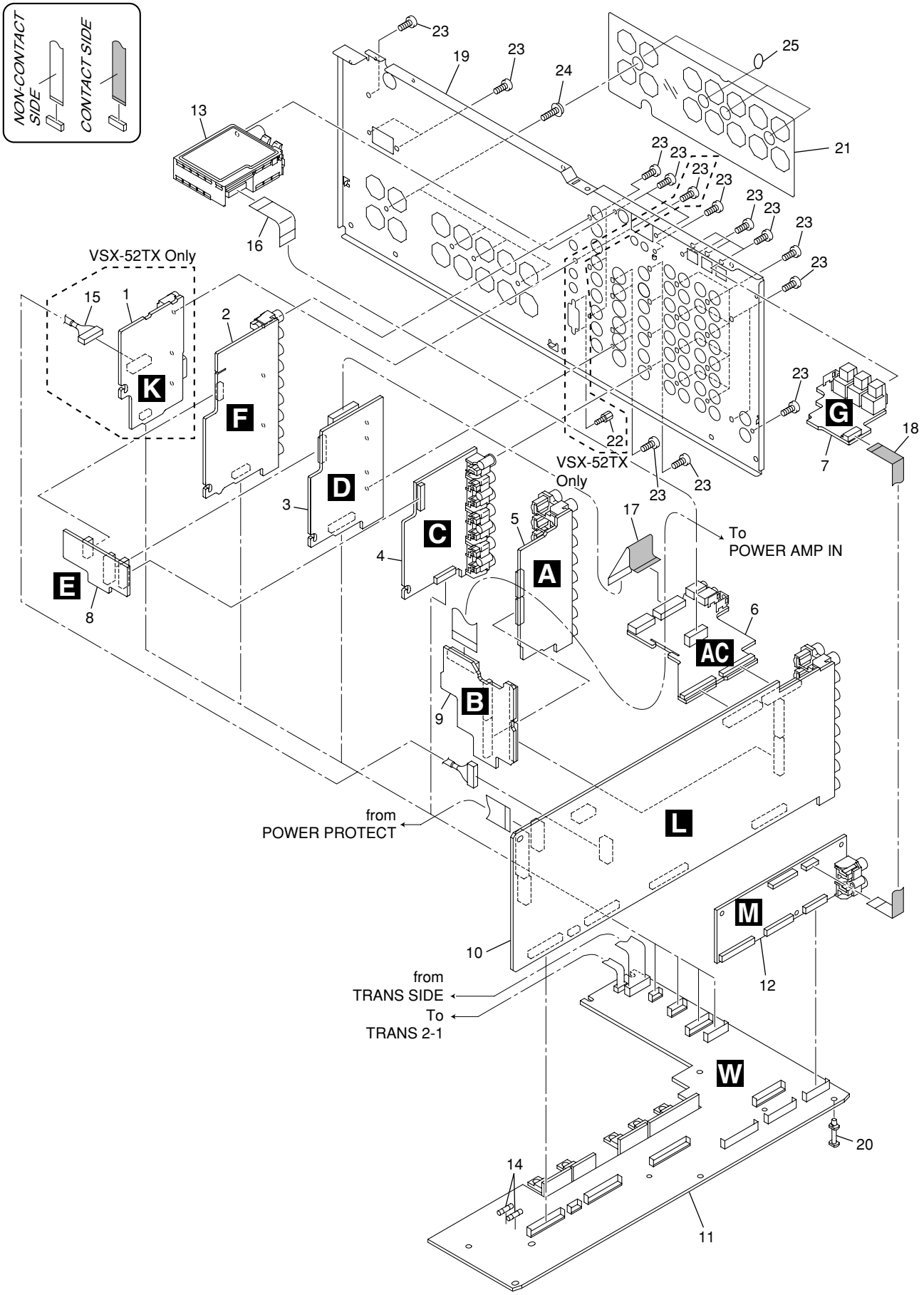
Mark	No.	Description	Part No.
	1	PRIMARY Assy	AWX8384
	2	SP/PS Assy	AWX8373
	3	DIODE Assy	AWX8376
	4	TRANS 2-1 Assy	AWX8372
	5	TRANS 2-2 Assy	AWX8371
	6	TRANS 1 Assy	AWX8383
	7	VH TR Assy	AWX8411
	8	TRANS SIDE Assy	AWX8417
⚠	9	Fuse (FU1 : 10A)	VEK1029
⚠	10	Fuse (FU4, 5 : 2.5A)	REK1112
⚠	11	Power Transformer (T1501)	ATS7374
⚠	12	Power Cable	VDG1075
	13	Flexible Cable (12P)	ADD7477
	14	Primary Angle 56	ANG7526
	15	DSP Shield A V1	ANG7479
	16	Cord Stopper	CM-22C
	17	Under Beam V1	AND7478
	18	Trans. Frame 45	ANG7399
NSP	19	Panel Stay V1	AND7066
	20	Stabilizer 45	See Contrast table (2)
	21	Screw Cover 45A	AEC7414
NSP	22	Under Base	See Contrast table (2)
	23	PCB Mold	AMR2534
	24	Locking Card Spacer	PNW2917
	25	Card Spacer	DNK2769
	26	Wire Saddle 5S	AEC7500
	27	Push Rivet	AEC7370
NSP	28	Binder (BK-1)	ZCA-BK1
NSP	29	Trans. Label V1	AAX8052
	30	Screw	IBZ30P150FCC
	31	Screw	ABA7109
	32	Screw	BBZ30P080FCC
	33	Deco Screw	ABA7060

(2) CONTRAST TABLE

VSX-52TX/KUXJ/CA and VSX-1014TX-K/KUXJC are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-52TX /KUXJ/CA	VSX-1014TX-K /KUXJC
	20	Stabilizer 45	ANG7408	Not used
NSP	22	Under Base 52	ANA7166	Not used
NSP	22	Under Base 1014	Not used	ANA7161

2.4 REAR PANEL SECTION



(1) REAR PANEL SECTION parts List

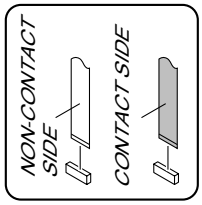
Mark	No.	Description	Part No.
	1	12V TRIGGER Assy	See Contrast table (2)
	2	COMPONENT Assy	AWX8358
	3	S VIDEO Assy	AWX8361
	4	COMPOSITE V Assy	See Contrast table (2)
	5	MULTI CH I/O Assy	See Contrast table (2)
	6	REAR TOP Assy	AWX8397
	7	OPTICAL-IN Assy	AWX8394
	8	VIDEO SIDE Assy	AWX8366
	9	AUDIO CONNECT Assy	AWX8382
	10	MAIN CONTROL Assy	See Contrast table (2)
	11	REGULATOR Assy	See Contrast table (2)
	12	DSP Assy	AWX8414
	13	FM/AM TUNER Unit	AXX7172
⚠	14	Fuse (FU2501, 2502 : 3.15A)	REK1114
	15	Connector Assy (8P)	See Contrast table (2)
	16	Flexible Cable (11P)	ADD7476
	17	Flexible Cable (17P)	ADD7478
	18	Flexible Cable (10P)	ADD7472
	19	Rear Panel	See Contrast table (2)
	20	Card Spacer	AEC7502
	21	Speaker Sheet V1	AAK8176
	22	Hexagonal Screw	See Contrast table (2)
	23	Screw	BBZ30P080FCC
	24	Screw	BBT30P100FCC
	25	Cushion Circle 14B	AED7081

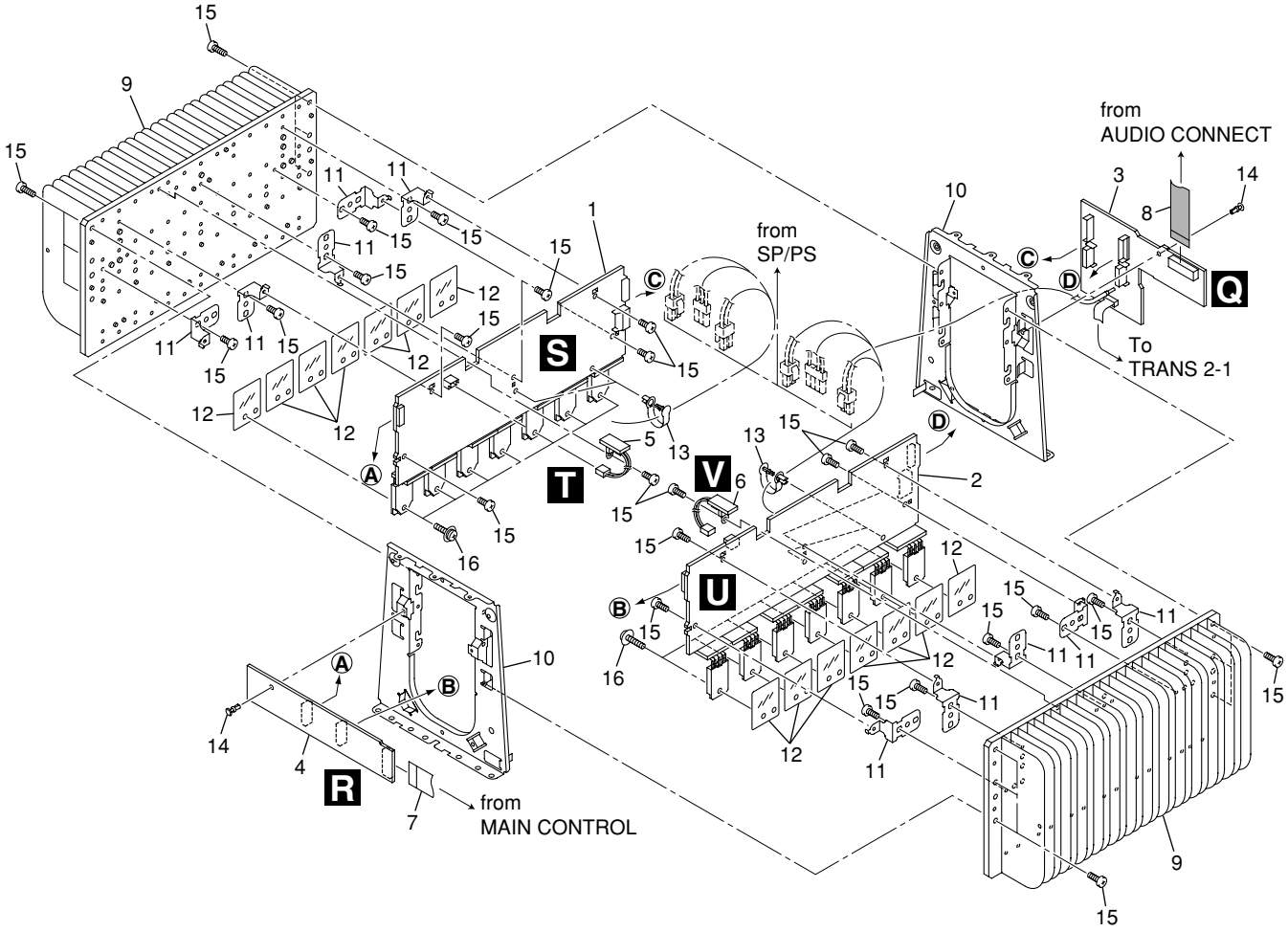
(2) CONTRAST TABLE

VSX-52TX/KUXJ/CA and VSX-1014TX-K/KUXJC are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-52TX /KUXJ/CA	VSX-1014TX-K /KUXJC
	1	12V TRIGGER Assy	AWX8395	Not used
	4	COMPOSITE V Assy	AWX8353	AWX8362
	5	MULTI CH I/O Assy	AWX8410	AWX8352
	10	MAIN CONTROL Assy	AWX8343	AWX8348
	11	REGULATOR Assy	AWX8364	AWX8367
	15	Connector Assy (8P)	ADE7085	Not used
	19	Rear Panel 52KU	ANC8249	Not used
	19	Rear Panel 1014KU	Not used	ANC8254
	22	Hexagonal Screw	ABA7078	Not used

2.5 HEAT SINK SECTION

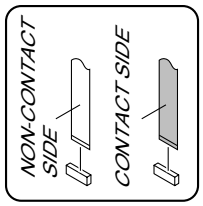


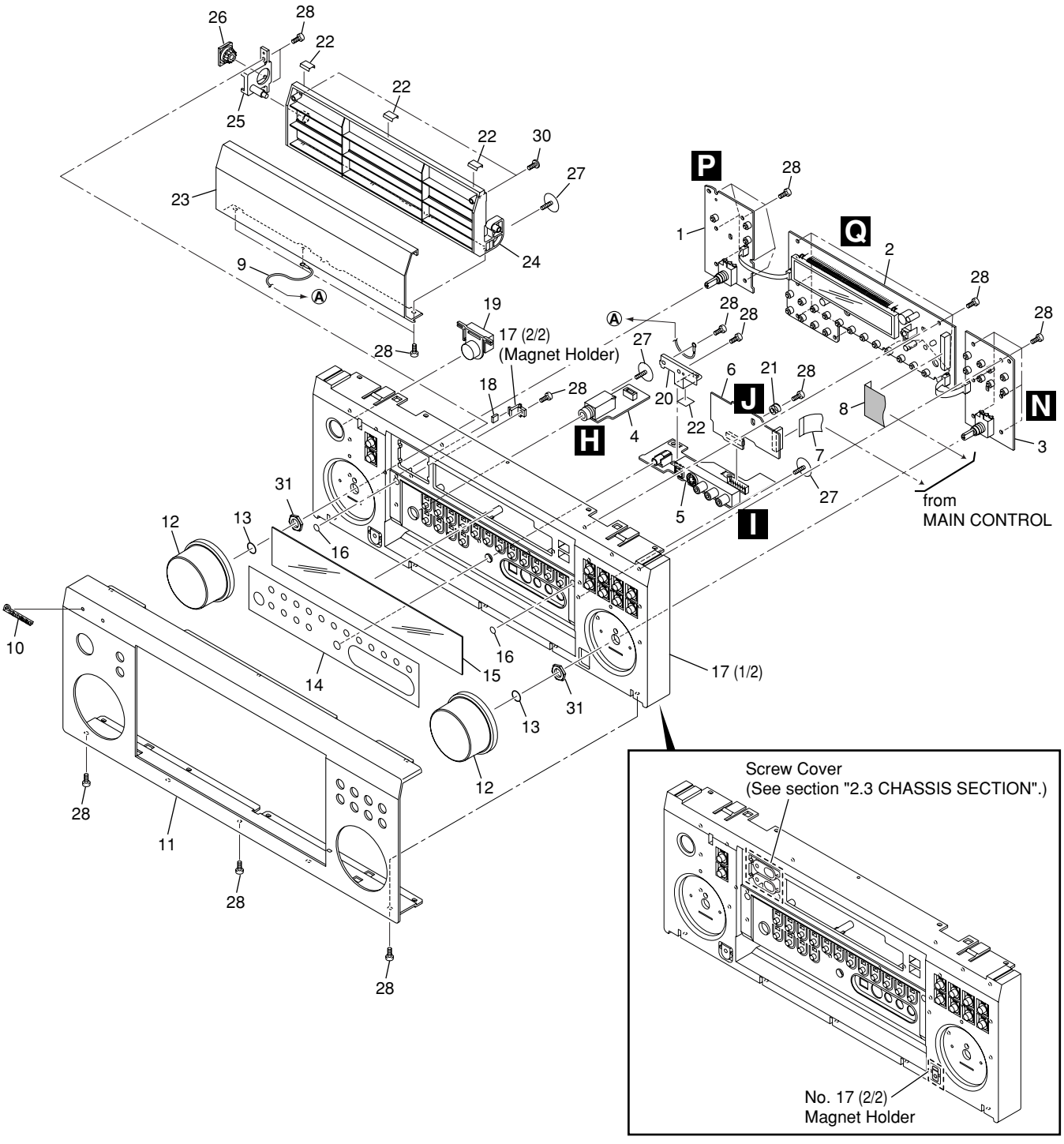


HEAT SINK SECTION parts List

Mark	No.	Description	Part No.
	1	POWER AMP-L Assy	AWX8409
	2	POWER AMP-R Assy	AWX8404
	3	POWER AMP IN Assy	AWX8405
	4	POWER PROTECT Assy	AWX8406
	5	POSI 1 L Assy	AWX8427
	6	POSI 1 R Assy	AWX8426
	7	Flexible Cable (15P)	ADD7473
	8	Flexible Cable (18P)	ADD7479
NSP	9	Heat Sink 45	ANH7152
	10	H.S Angle V1	ANG7481
	11	PCB Angle 45	ANG7406
	12	Mica Sheet 45	AEE7047
NSP	13	Speed Clamp	AEC7445
	14	Nyron Rivet	AEC7408
	15	Screw	BBZ30P100FCC
	16	Screw	ABA7085
	17	• • • •	

2.6 FRONT PANEL SECTION





(1) FRONT PANEL SECTION parts List

Mark	No.	Description	Part No.
	1	MULTI JOG Assy	AWX8479
	2	DISPLAY Assy	See Contrast table (2)
	3	VOLUME Assy	AWX8378
	4	HEADPHONE Assy	AWX8380
	5	FRONT-IN Assy	AWX8381
	6	FRONT-IN CONNECT Assy	AWX8416
	7	Flexible Cable (15P)	ADD7473
	8	Flexible Cable (26P)	ADD7474
NSP	9	Earth Lead Wire	ADH7022
	10	Pioneer Badge B	See Contrast table (2)
	11	F. Panel	See Contrast table (2)
	12	Rotary Knob B	AAA7024
	13	Ring	ABH7213
	14	D. Sheet	See Contrast table (2)
	15	Window	See Contrast table (2)
	16	Cushion Circle 6B	AED7083
	17	Panel Base V1B	AMB7870
	18	Magnet 35	AMF7007
	19	Standby Button V1K	XAD3173
	20	Earth Plate A	ANG7484
NSP	21	Earth Spring 35	ABH7193
	22	Cushion 11 x 11	AED7088
	23	Door	See Contrast table (2)
	24	Door Base V1B	AMR7477
	25	Door Shaft 35	AMR7295
	26	Damper Assy (240)	AXA7136
	27	Screw	ABA7110
	28	Screw	BPZ30P100FTC
	29	• • • •	
	30	• • • •	
	31	Nut	NK90FCC

(2) CONTRAST TABLE

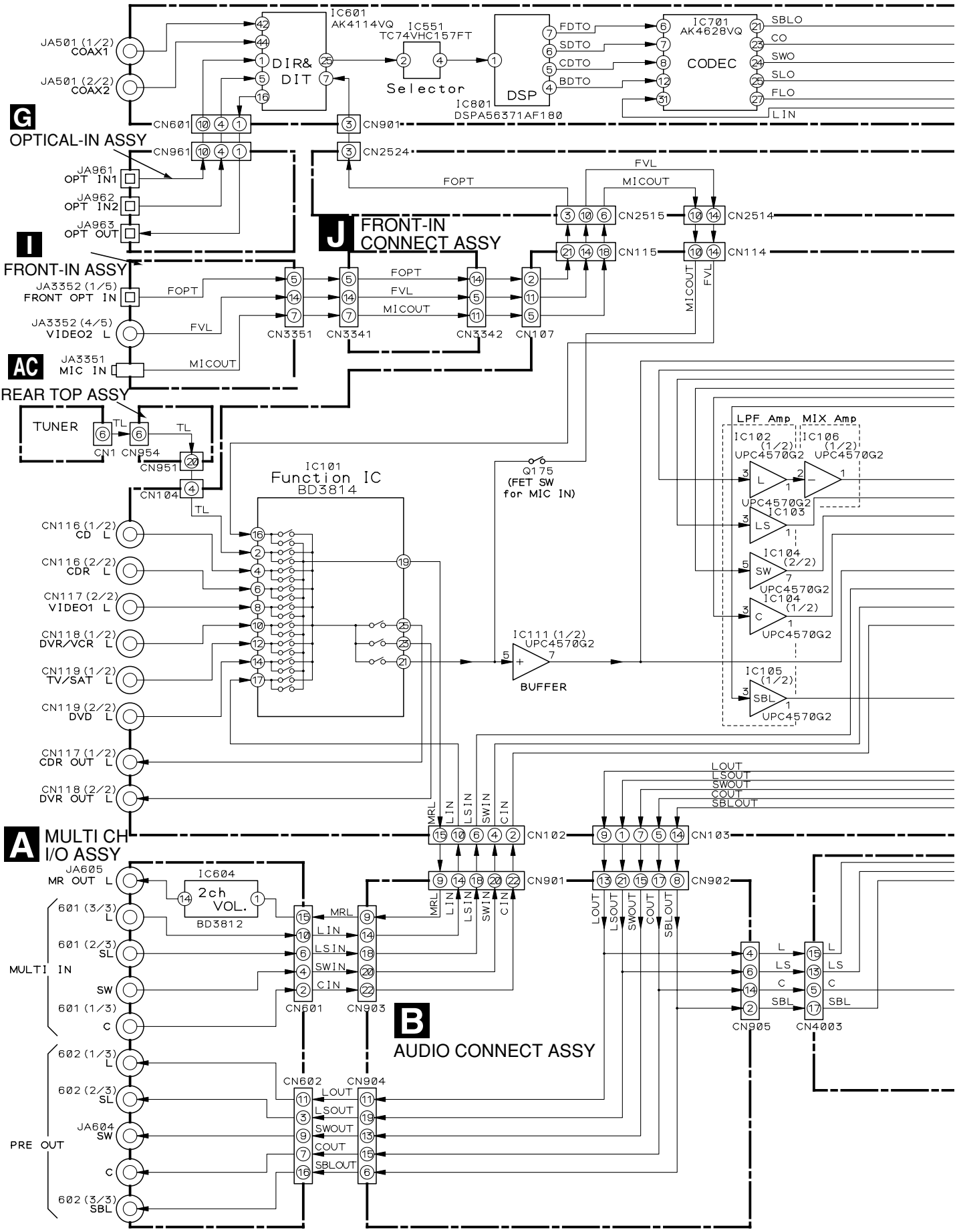
VSX-52TX/KUXJ/CA and VSX-1024TX-K/KUXJC are constructed the same except for the following:

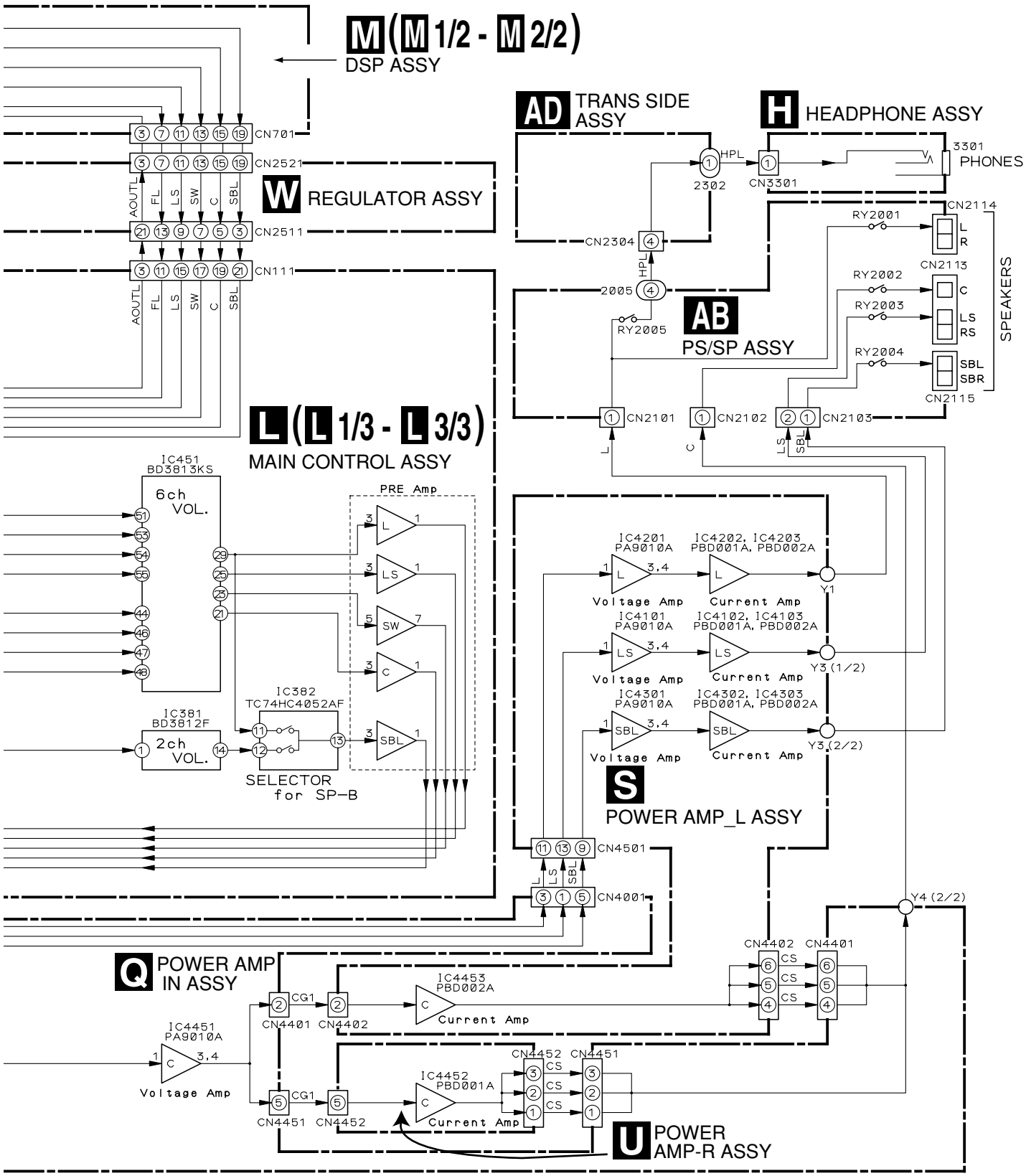
Mark	No.	Symbol and Description	VSX-52TX /KUXJ/CA	VSX-1024TX-K /KUXJC
	2	DISPLAY Assy	AWX8377	AWX8389
	10	Pioneer Badge B	PAN1376	AAN7218
	11	F. Panel 52KU	ANB7338	Not used
	11	F. Panel 1014KU	Not used	ANB7339
	14	D. Sheet 52KU	AAK8179	Not used
	14	D. Sheet 1014KU	Not used	AAK8180
	15	Window 52	AAK8177	Not used
	15	Window 1014	Not used	AAK8186
	23	Door 52	ANB7334	Not used
	23	Door V1	Not used	ANB7335

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

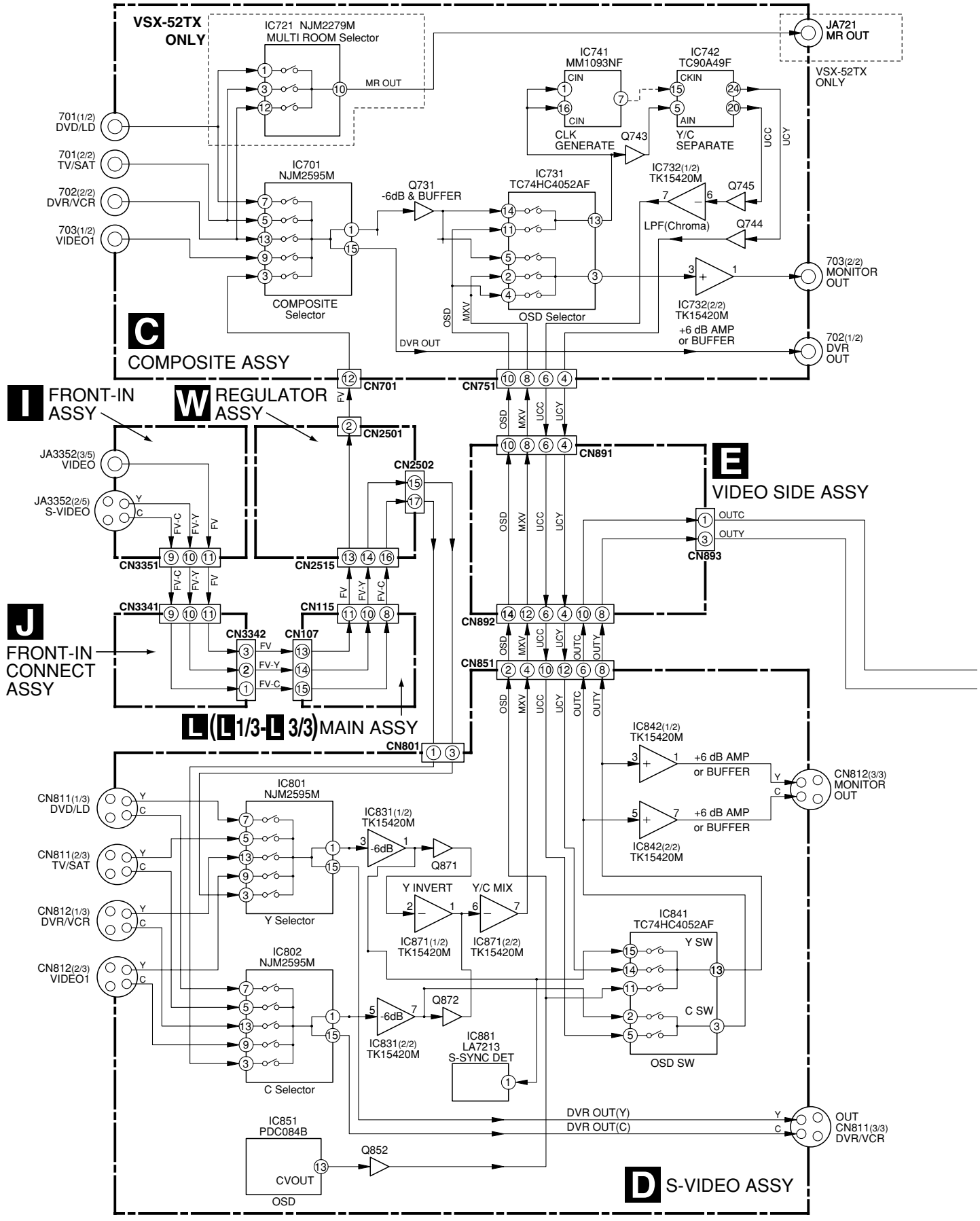
3.1.1 AUDIO SECTION



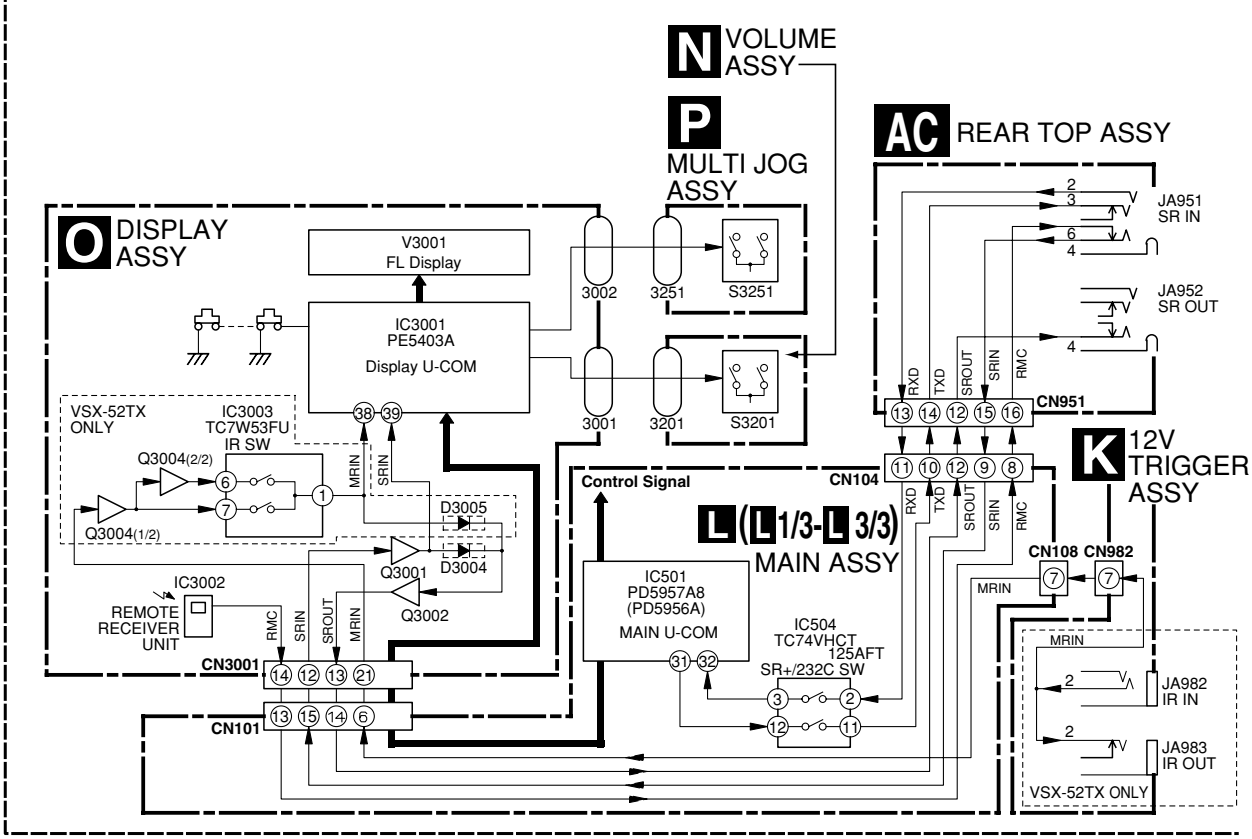

M (M 1/2 - M 2/2)
DSP ASSY
CN701
CN2521
CN2511
CN111
AOUTL
FL
LS
SW
C
SBL
W REGULATOR ASSY
AD TRANS SIDE ASSY
H HEADPHONE ASSY
HPL
2302
CN3301
3301
PHONES
CN2304
2005
RY2005
AB
PS/SP ASSY
RY2001
RY2002
RY2003
RY2004
CN2114
CN2113
CN2115
L
R
C
LS
RS
SBL
SBR
SPEAKERS
CN2101
CN2102
CN2103
L (L 1/3 - L 3/3)
MAIN CONTROL ASSY
IC451
BD3813KS
6ch
VOL.
PRE Amp
IC382
TC74HC4052AF
IC381
BD3812F
2ch
VOL.
SELECTOR
for SP-B
IC4201
PA9010A
IC4202, IC4203
PBD001A, PBD002A
IC4101
PA9010A
IC4102, IC4103
PBD001A, PBD002A
IC4301
PA9010A
IC4302, IC4303
PBD001A, PBD002A
Voltage Amp
Current Amp
Y1
Y3 (1/2)
Y3 (2/2)
S
POWER AMP_L ASSY
CN4501
CN4001
Y4 (2/2)
Q POWER AMP IN ASSY
IC4453
PBD002A
IC4451
PA9010A
IC4452
PBD001A
CN4401
CN4402
CN4451
CN4452
CG1
CS
U POWER AMP-R ASSY

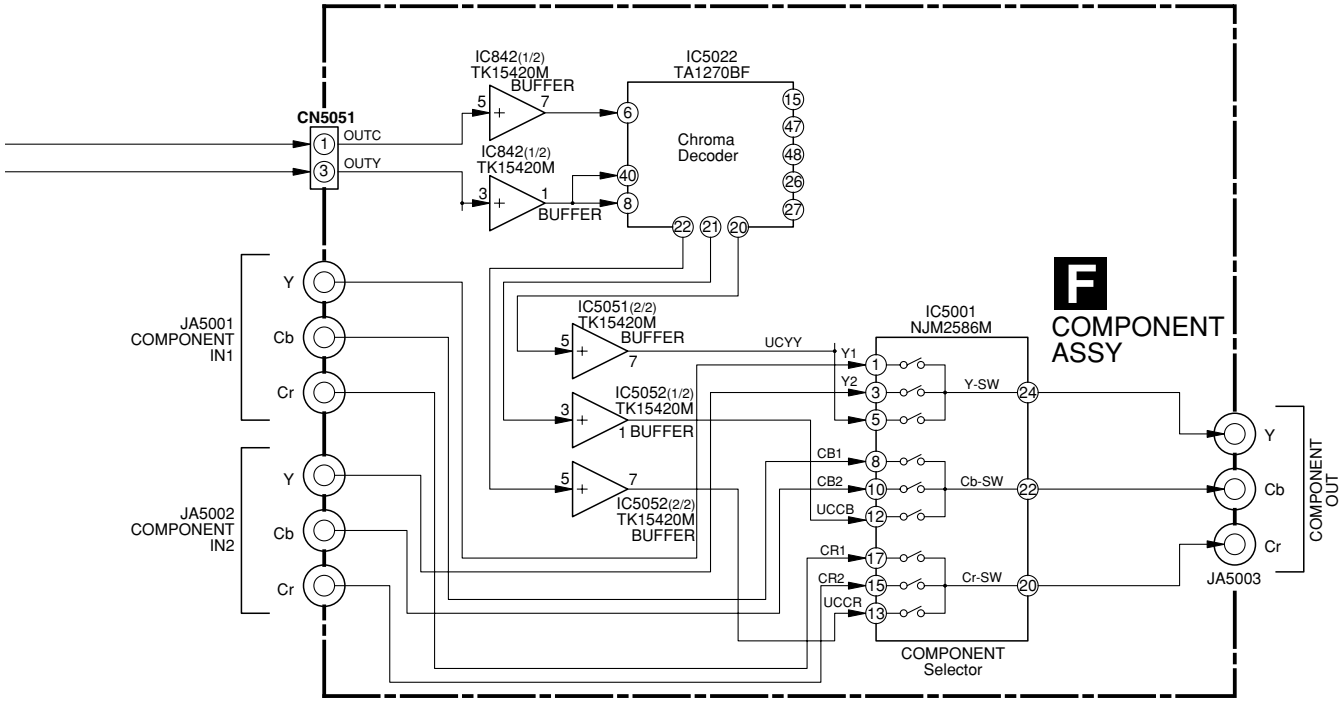
3.1.2 VIDEO and DISPLAY SECTIONS

Video Block



Display/SR Block



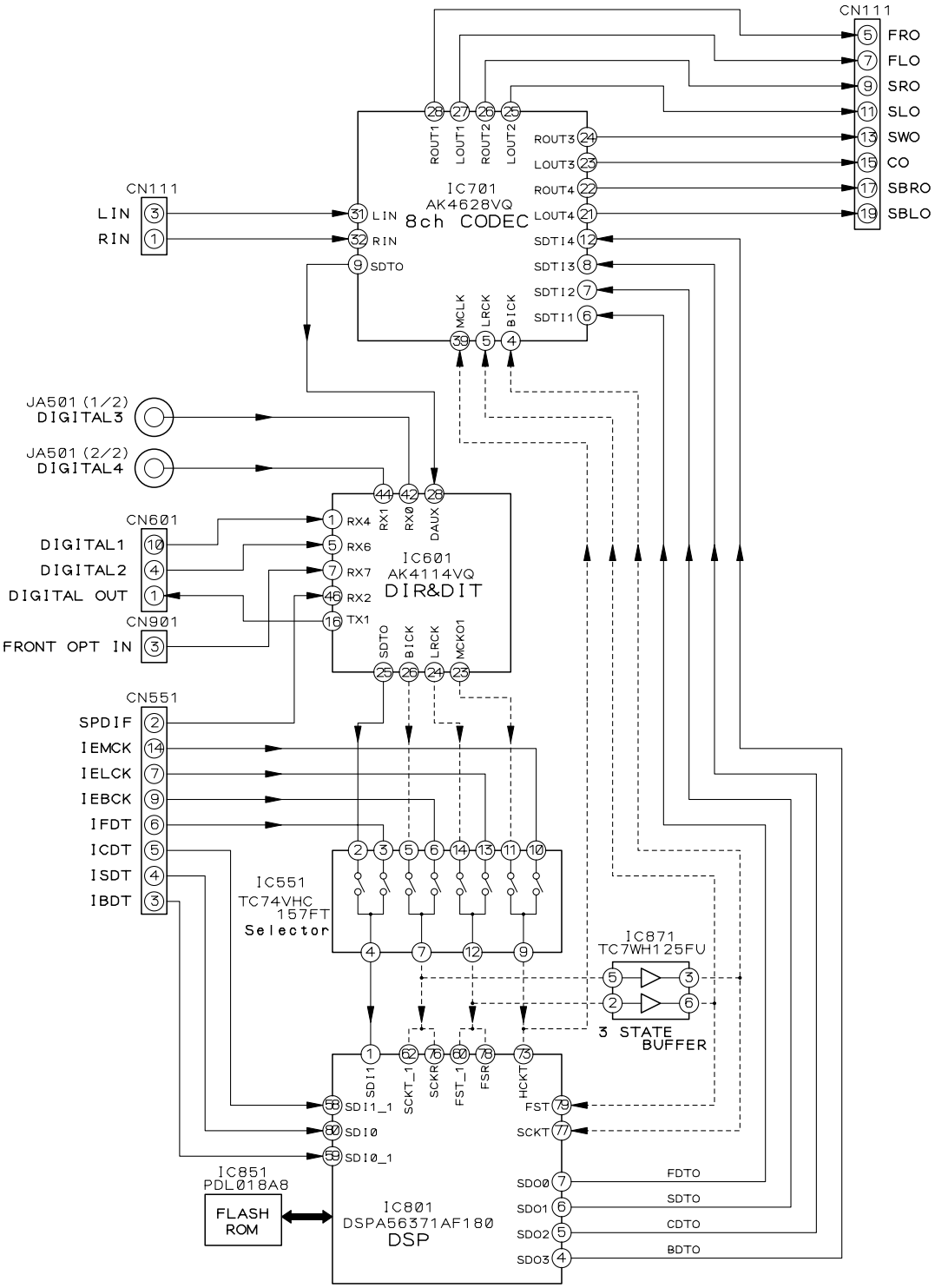


3.1.3 DSP SECTION

A

DSP Block

M (M 1/2 - M 2/2) DSP ASSY



A

B

C

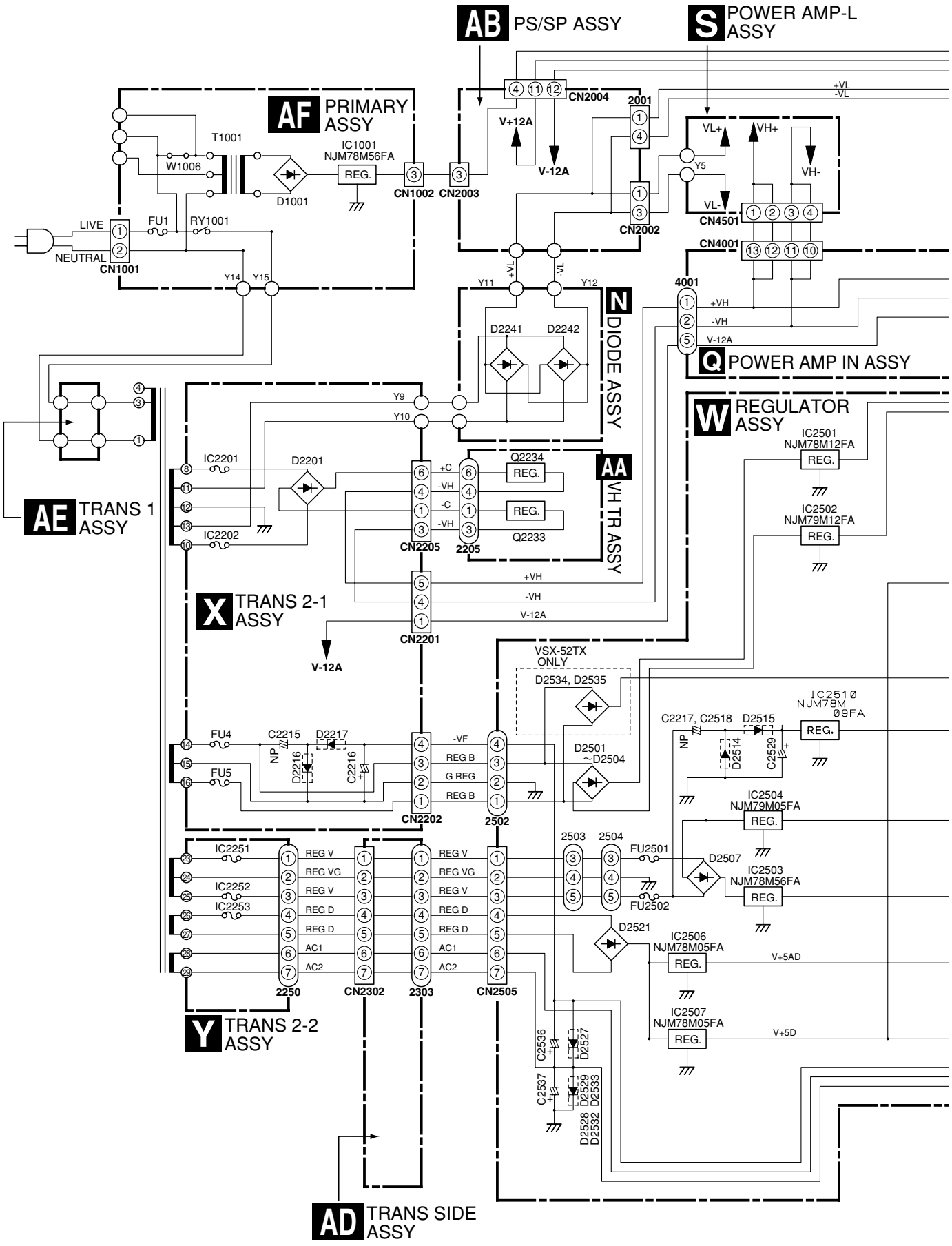
D

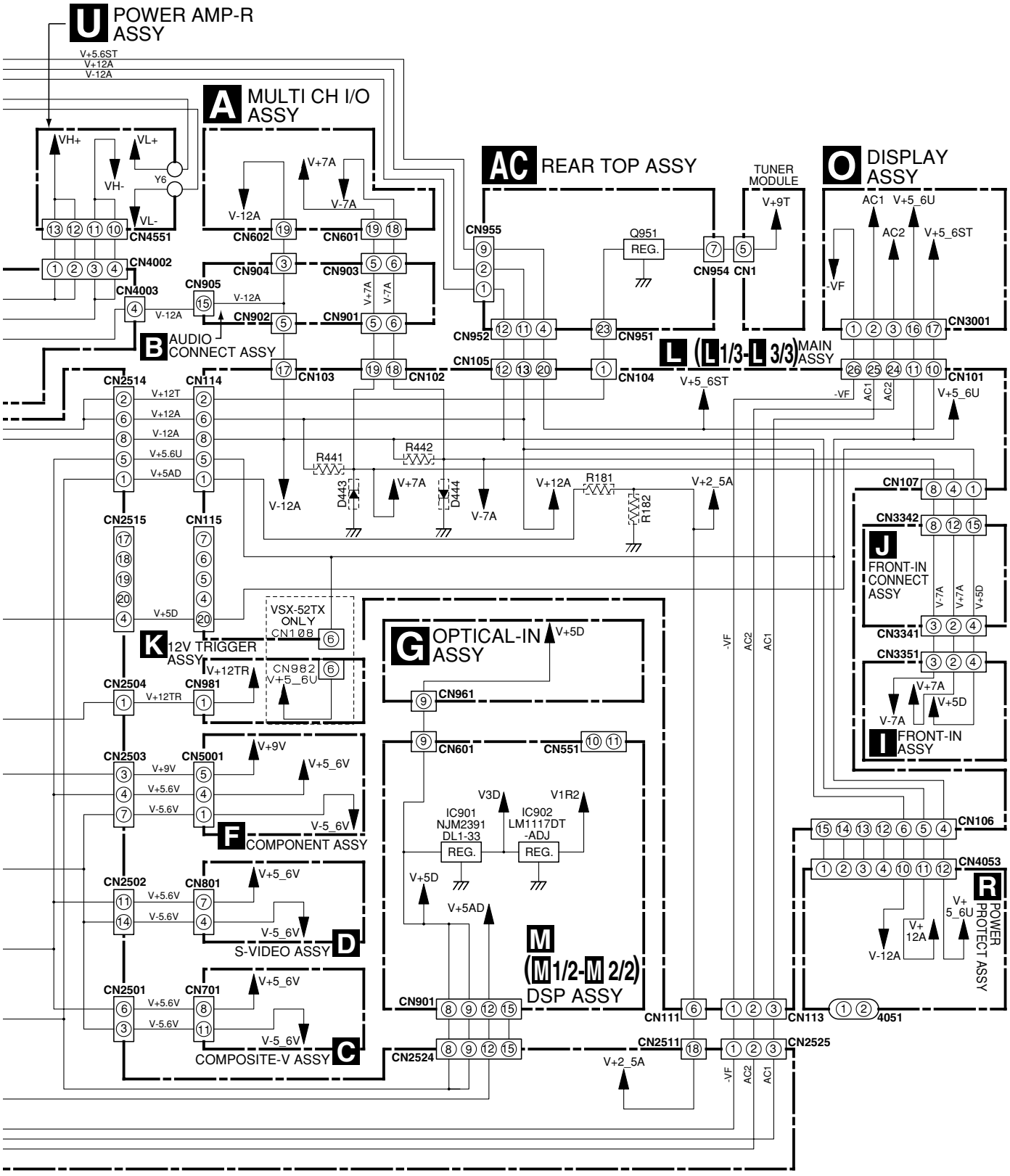
E

F

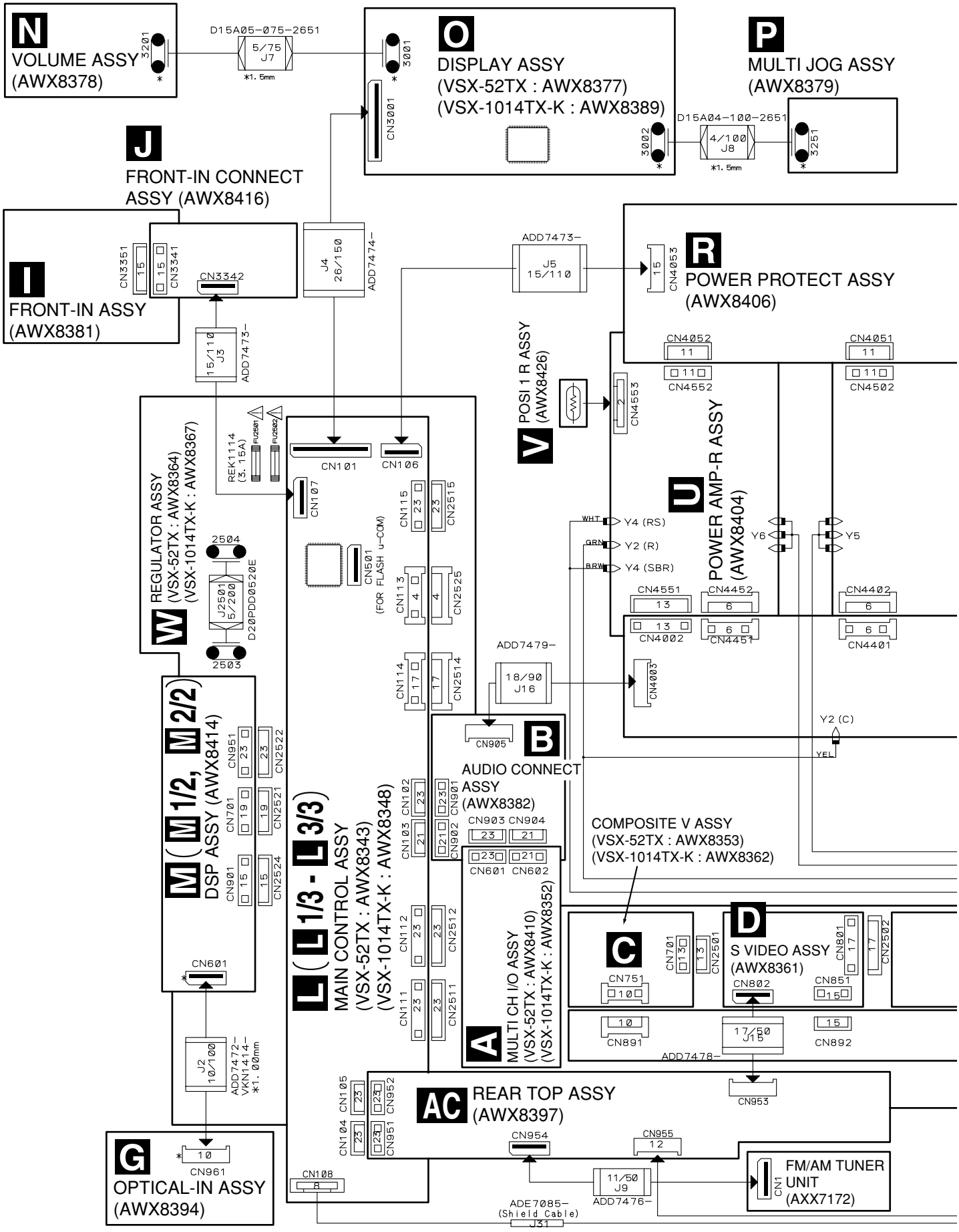
3.1.4 POWER SUPPLY SECTION

Power Supply Block

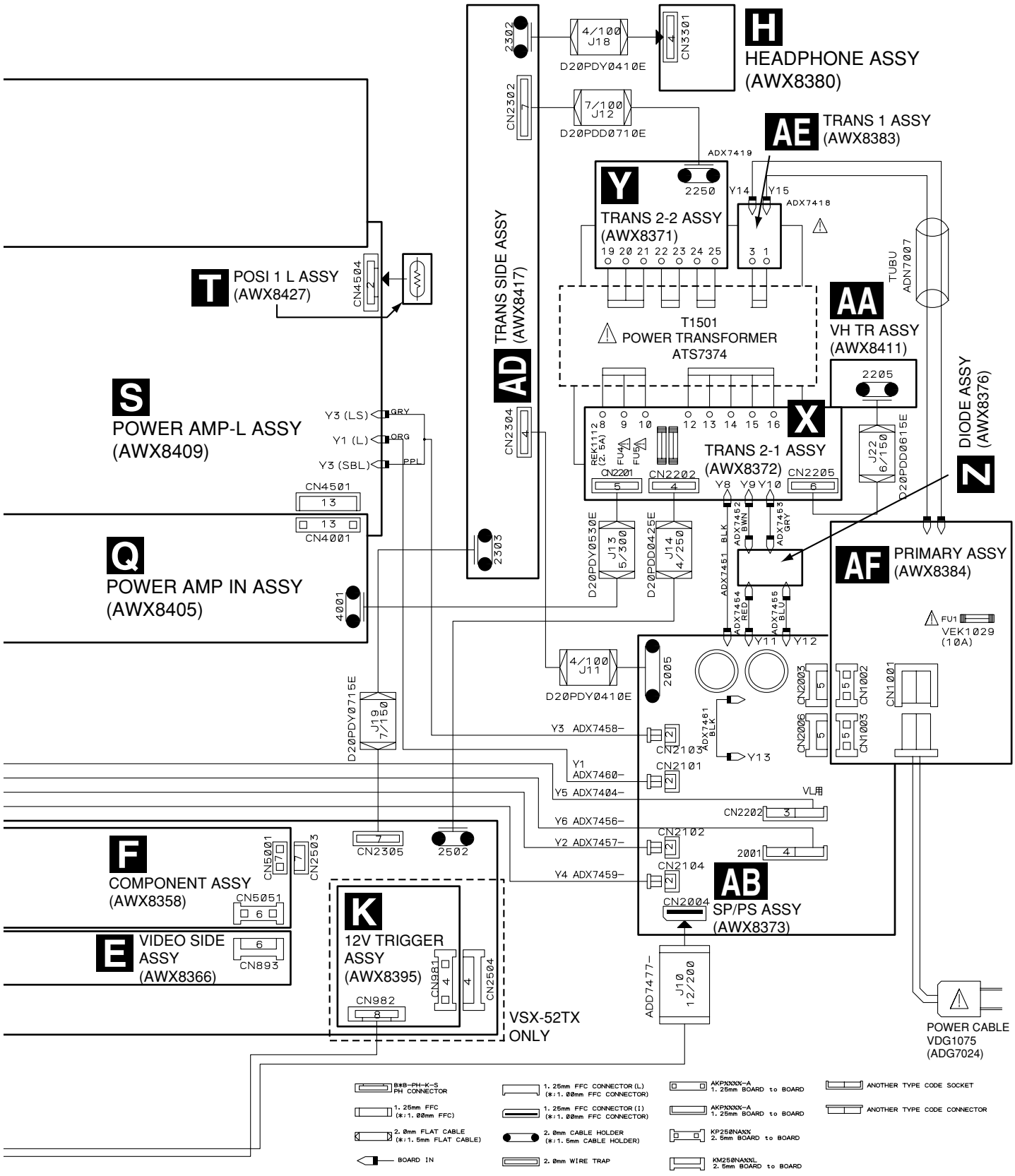



U POWER AMP-R ASSY
V+5.6ST
V+12A
V-12A
A MULTI CH I/O ASSY
VH+
VL+
VH-
Y6
VL-
CN4551
CN4002
CN4003
CN602
CN601
CN904
CN903
CN905
CN902
CN901
V+7A
V-7A
V-12A
B AUDIO CONNECT ASSY
CN103
CN102
AC REAR TOP ASSY
CN955
CN952
CN951
CN954
CN1
Q951
REG.
TUNER MODULE
V+9T
O DISPLAY ASSY
AC1
AC2
V+5_6U
V+5_6ST
-VF
CN3001
L (L1/3-L3/3) MAIN ASSY
CN105
CN104
CN101
CN2514
CN114
V+12T
V+5.6U
V+5AD
CN2515
CN115
R441
R442
D443
D444
R181
R182
V+2_5A
CN107
CN3342
J FRONT-IN CONNECT ASSY
CN3341
CN3351
I FRONT-IN ASSY
V-7A
V+5D
K 12V TRIGGER ASSY
VSX-52TX ONLY
CN108
CN982
CN2504
CN981
V+12TR
G OPTICAL-IN ASSY
CN961
CN601
CN551
CN2503
CN5001
V+9V
V+5.6V
V-5.6V
V+5_6V
V-5_6V
F COMPONENT ASSY
IC901 NJM2391 DL1-33
IC902 LM1117DT -ADJ
V3D
V1R2
CN106
CN4053
R POWER PROTECT ASSY
V+ 5_6U
V+ 12A
CN2502
CN801
S-VIDEO ASSY D
CN2501
CN701
COMPOSITE-V ASSY C
M (M1/2-M2/2) DSP ASSY
CN901
CN111
CN113
4051
CN2511
CN2525
CN2524

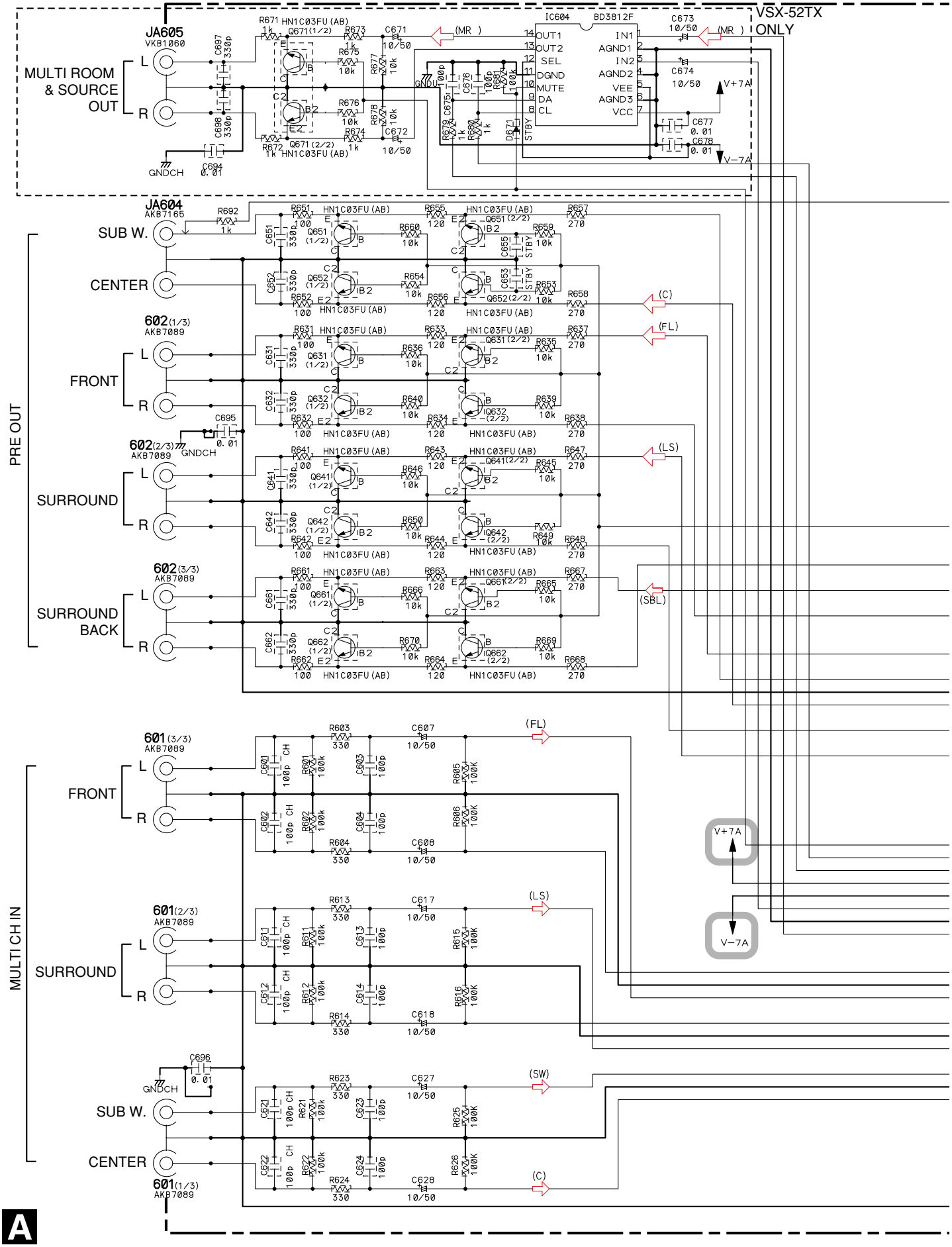
3.2 OVERALL WIRING DIAGRAM

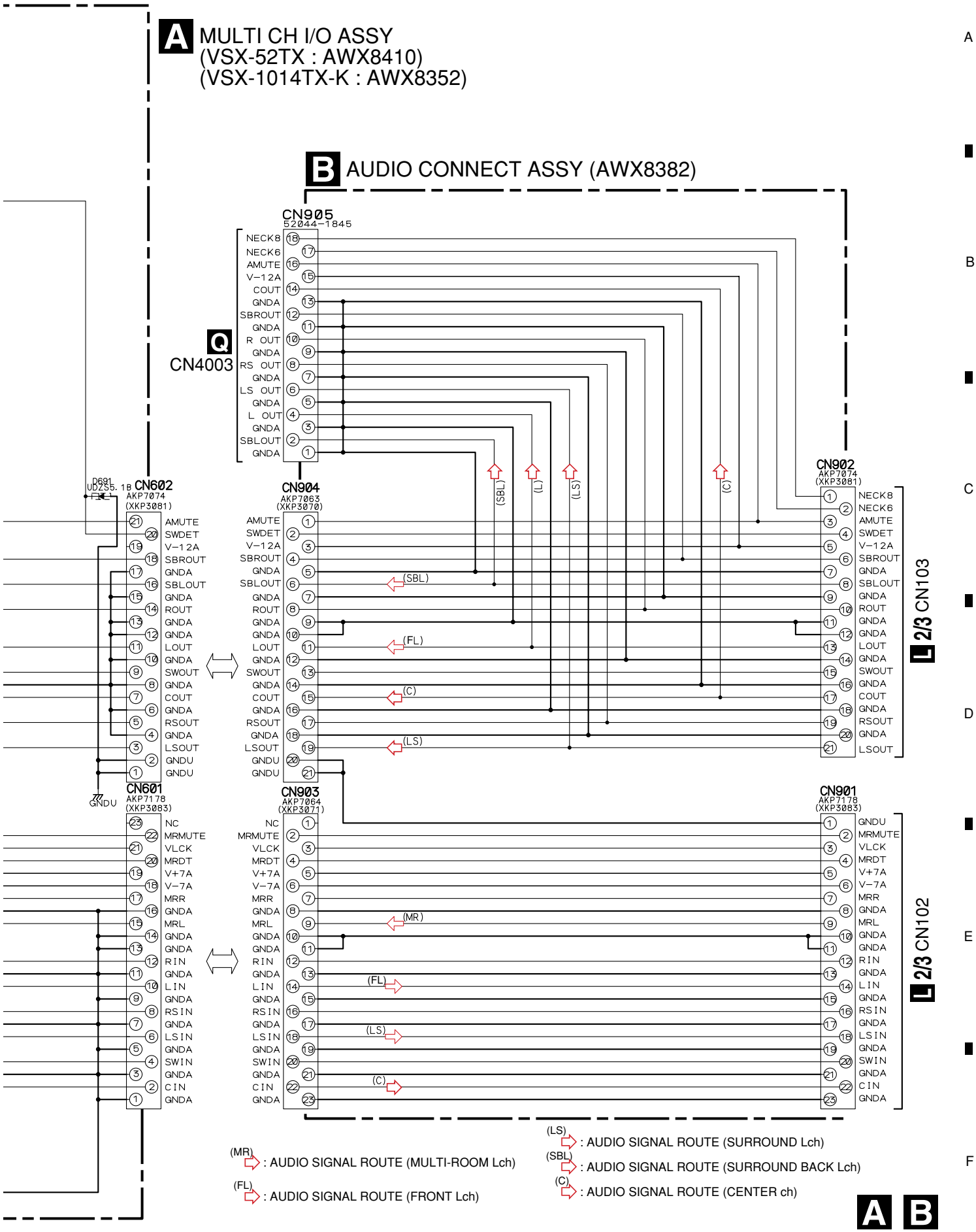


- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- : The power supply is shown with the marked box.

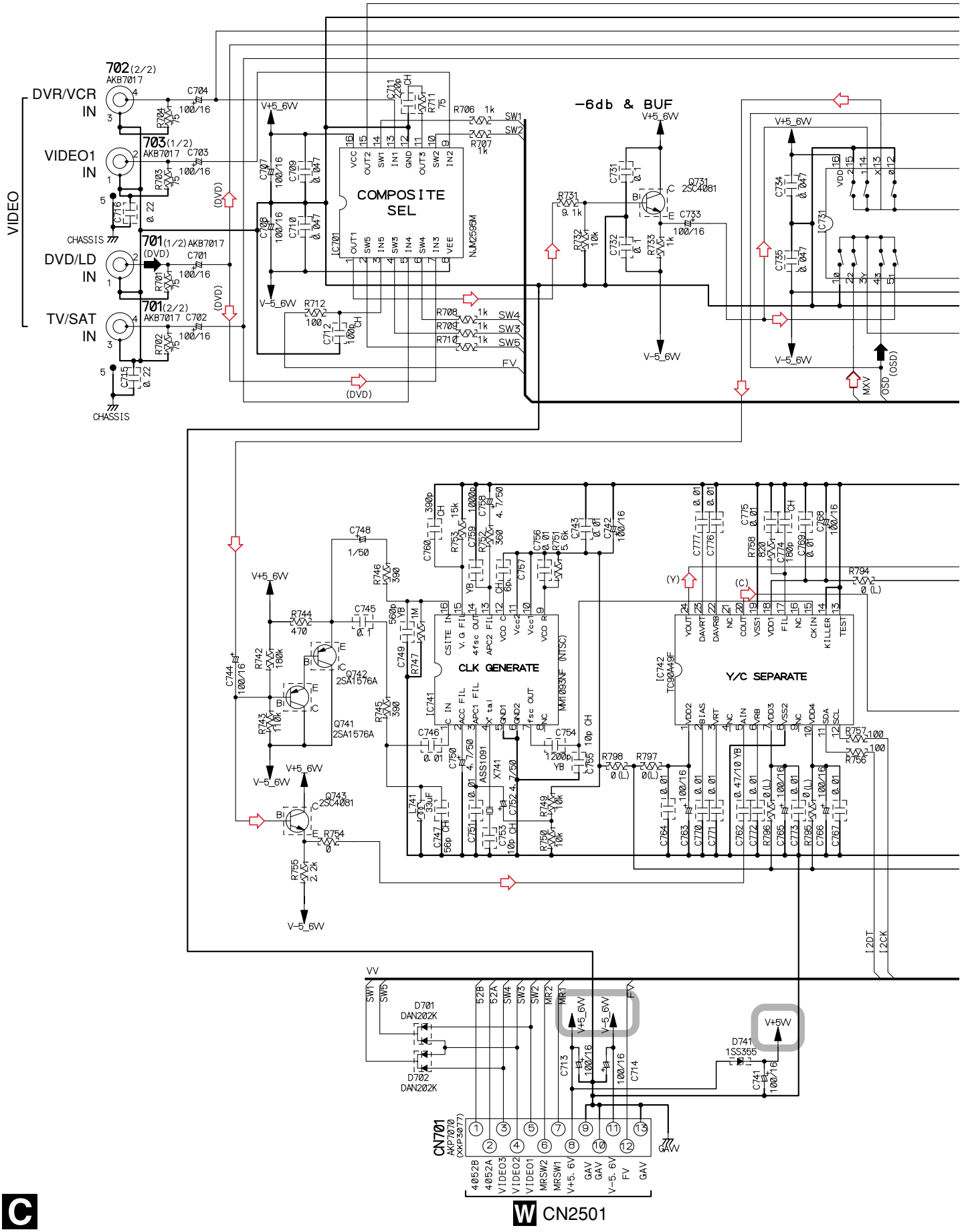


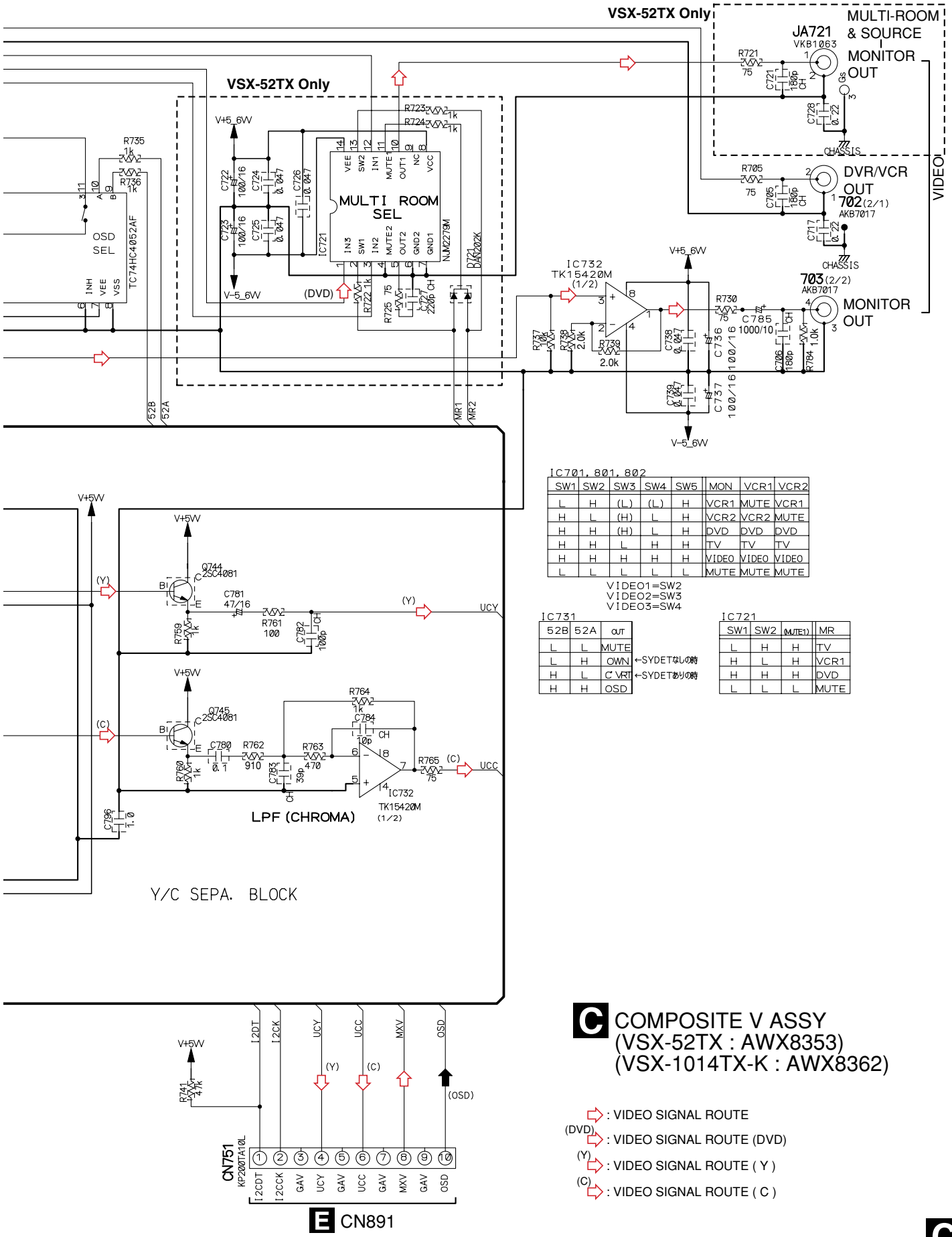
3.3 MULTI CH I/O and AUDIO CONNECT ASSYS




A MULTI CH I/O ASSY
(VSX-52TX : AWX8410)
(VSX-1014TX-K : AWX8352)
B AUDIO CONNECT ASSY (AWX8382)
Q
CN4003
CN905
52044-1845
NECK8
NECK6
AMUTE
V-12A
COUT
GNDA
SBROUT
GNDA
R OUT
GNDA
RS OUT
GNDA
LS OUT
GNDA
L OUT
GNDA
SBLOUT
GNDA
D691
UDZS5.1B
CN602
AKP7074
(XKP3081)
AMUTE
SWDET
V-12A
SBROUT
GNDA
SBLOUT
GNDA
ROUT
GNDA
GNDA
LOUT
GNDA
SWOUT
GNDA
COUT
GNDA
RSOUT
GNDA
LSOUT
GNDU
GNDU
CN904
AKP7063
(XKP3070)
AMUTE
SWDET
V-12A
SBROUT
GNDA
SBLOUT
GNDA
ROUT
GNDA
GNDA
LOUT
GNDA
SWOUT
GNDA
COUT
GNDA
RSOUT
GNDA
LSOUT
GNDU
GNDU
(SBL)
(L)
(LS)
(C)
(SBL)
(FL)
(C)
(LS)
CN902
AKP7074
(XKP3081)
NECK8
NECK6
AMUTE
SWDET
V-12A
SBROUT
GNDA
SBLOUT
GNDA
ROUT
GNDA
GNDA
LOUT
GNDA
SWOUT
GNDA
COUT
GNDA
RSOUT
GNDA
LSOUT
L 2/3 CN103
GNDU
CN601
AKP7178
(XKP3083)
NC
MRMUTE
VLCK
MRDT
V+7A
V-7A
MRR
GNDA
MRL
GNDA
GNDA
RIN
GNDA
LIN
GNDA
RSIN
GNDA
LSIN
GNDA
SWIN
GNDA
CIN
GNDA
CN903
AKP7064
(XKP3071)
NC
MRMUTE
VLCK
MRDT
V+7A
V-7A
MRR
GNDA
MRL
GNDA
GNDA
RIN
GNDA
LIN
GNDA
RSIN
GNDA
LSIN
GNDA
SWIN
GNDA
CIN
GNDA
(MR)
(FL)
(LS)
(C)
CN901
AKP7178
(XKP3083)
GNDU
MRMUTE
VLCK
MRDT
V+7A
V-7A
MRR
GNDA
MRL
GNDA
GNDA
RIN
GNDA
LIN
GNDA
RSIN
GNDA
LSIN
GNDA
SWIN
GNDA
CIN
GNDA
L 2/3 CN102
(MR) : AUDIO SIGNAL ROUTE (MULTI-ROOM Lch)
(FL) : AUDIO SIGNAL ROUTE (FRONT Lch)
(LS) : AUDIO SIGNAL ROUTE (SURROUND Lch)
(SBL) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
(C) : AUDIO SIGNAL ROUTE (CENTER ch)
A B

3.4 COMPOSITE V ASSY





C COMPOSITE V ASSY
(VSX-52TX : AWX8353)
(VSX-1014TX-K : AWX8362)

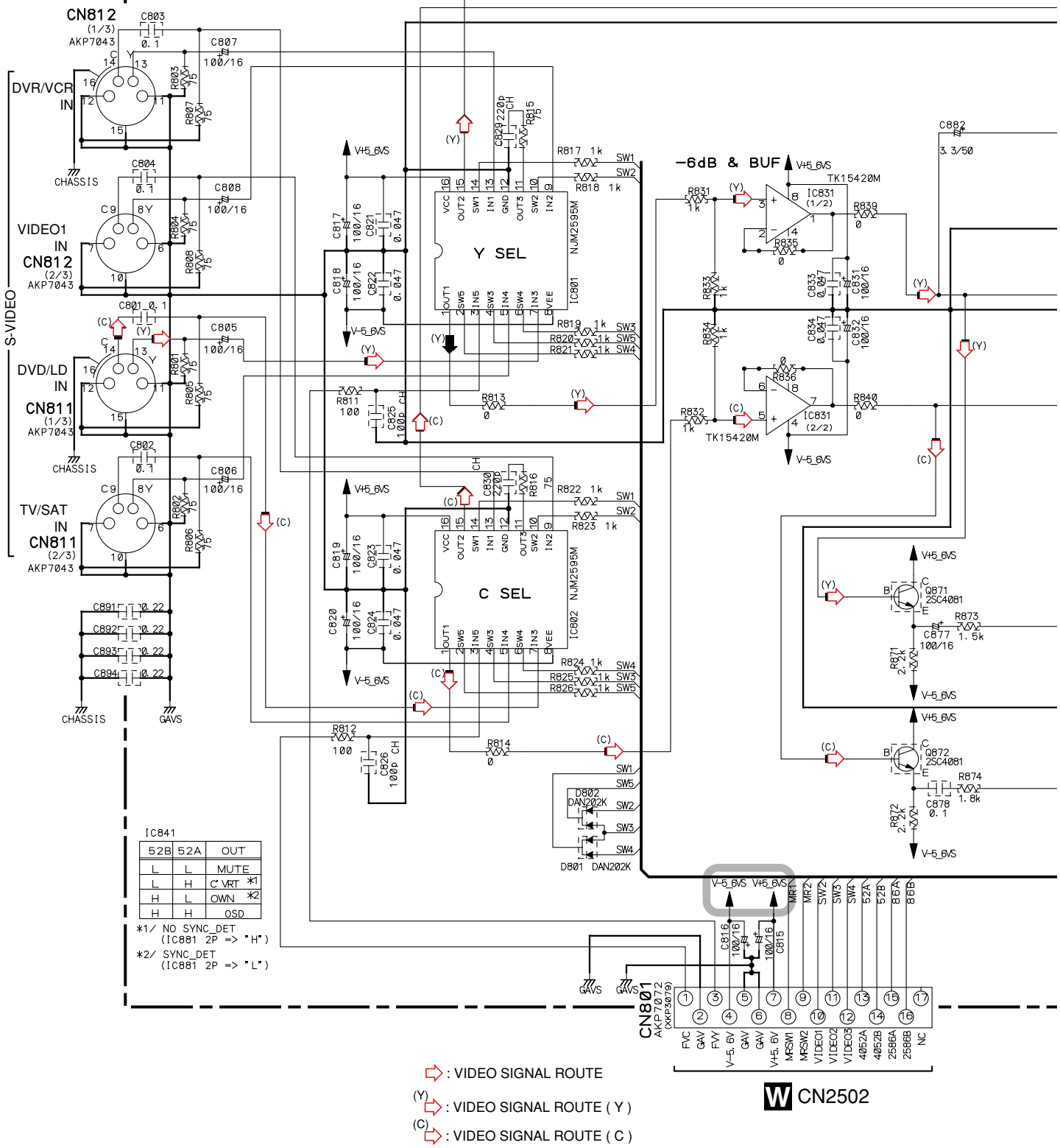
: VIDEO SIGNAL ROUTE

(DVD) : VIDEO SIGNAL ROUTE (DVD)

(Y) : VIDEO SIGNAL ROUTE (Y)

(C) : VIDEO SIGNAL ROUTE (C)

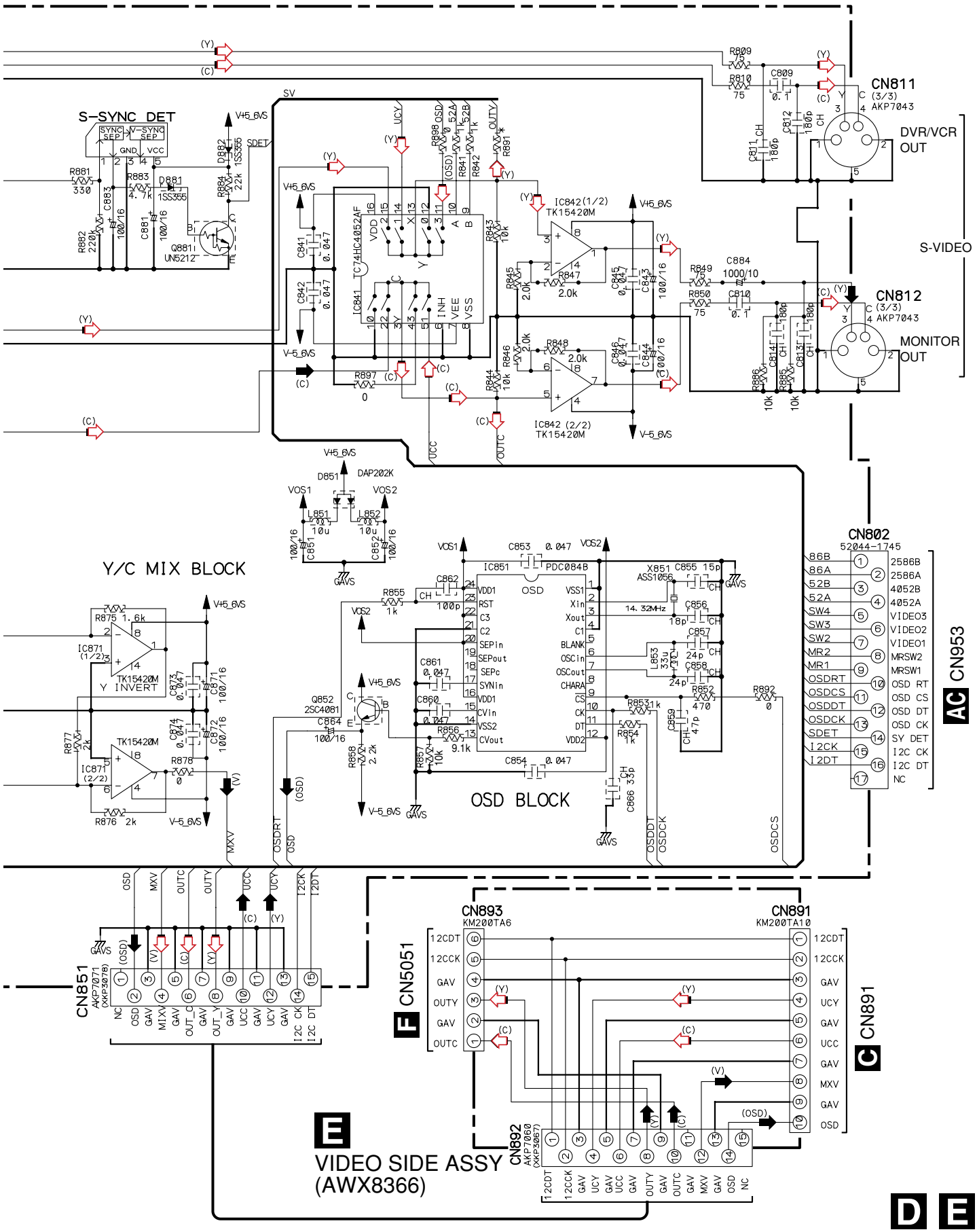
D S VIDEO ASSY (AWX8361)

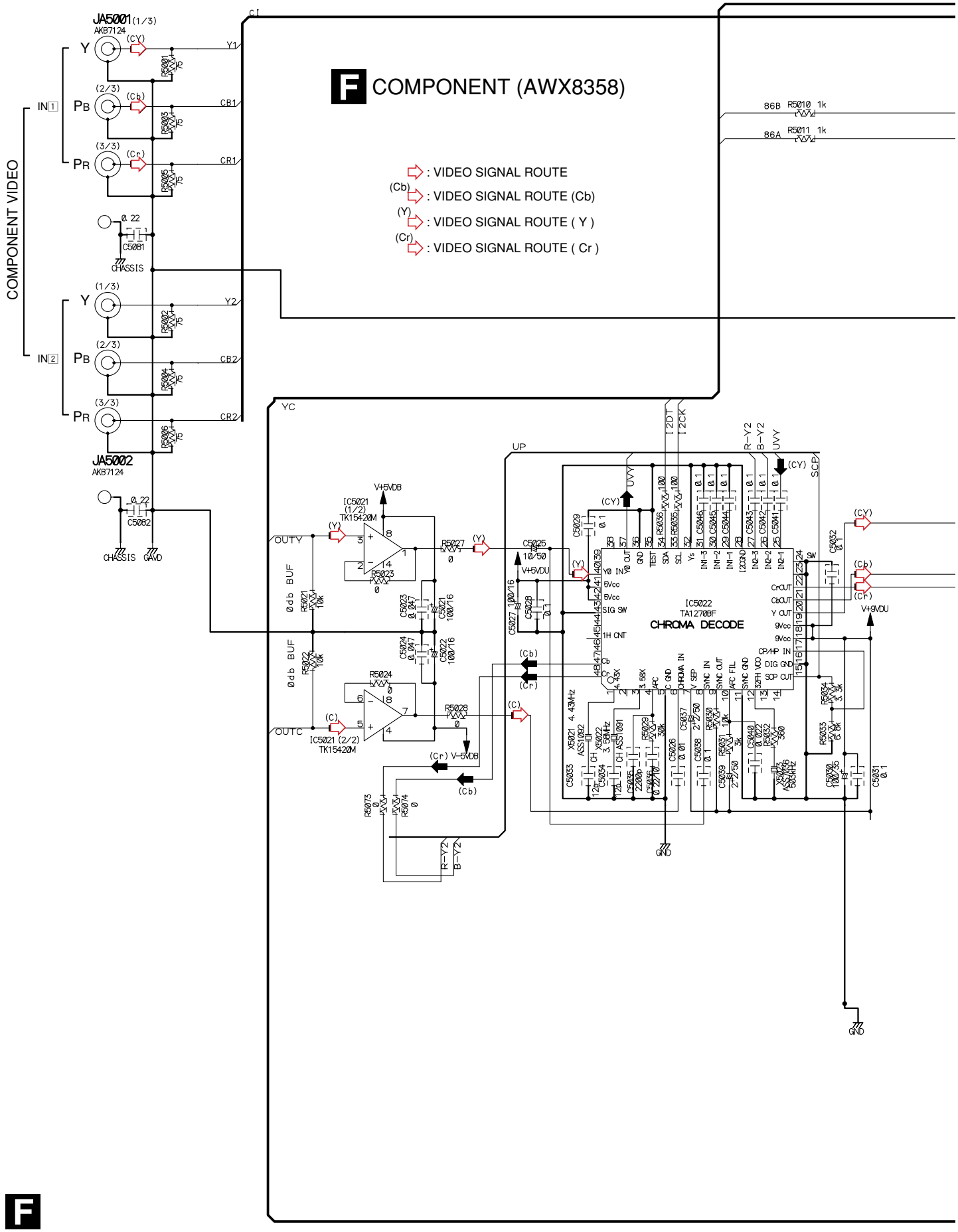


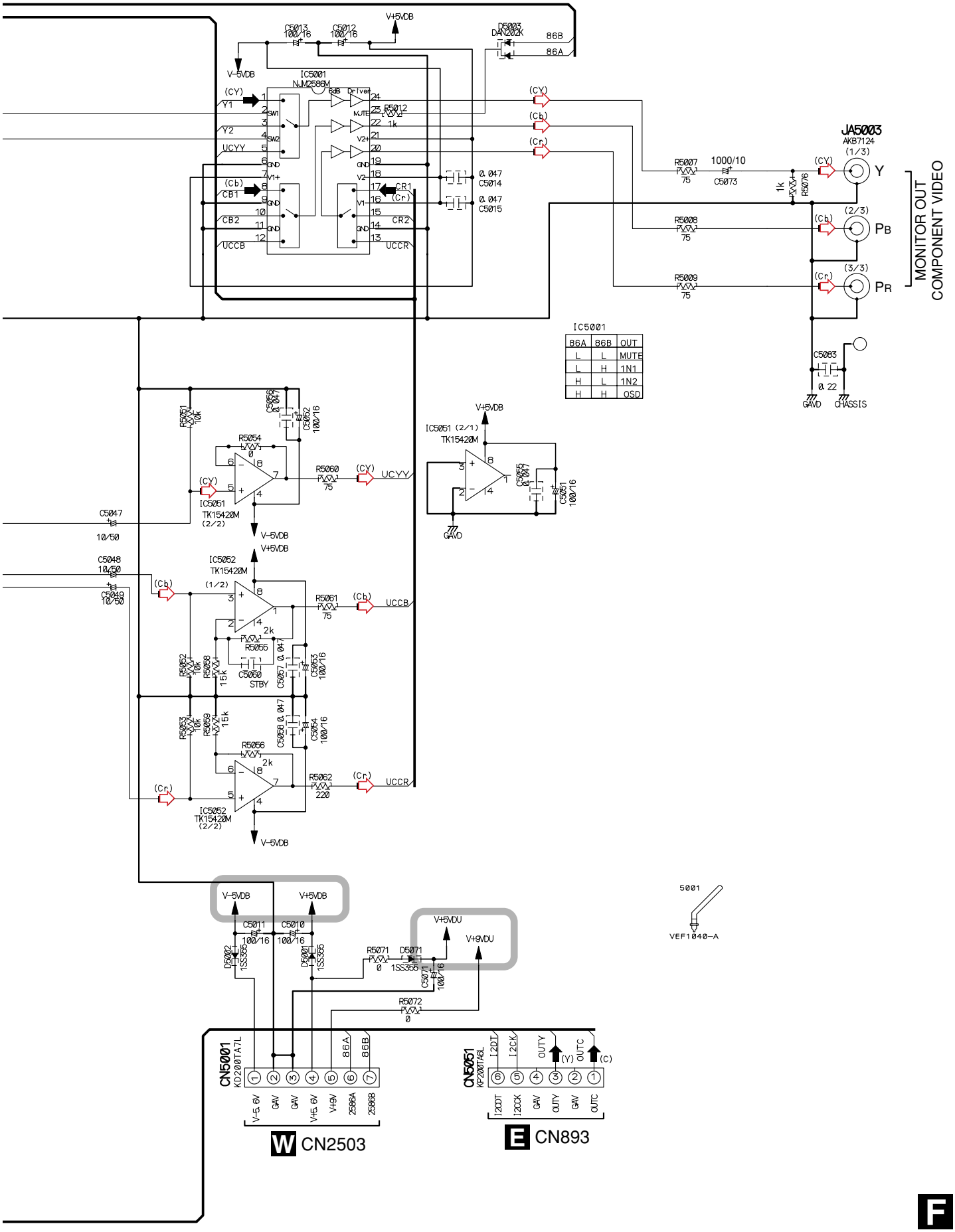
IC841

52B	52A	OUT
L	L	MUTE
L	H	C VRT *1
H	L	OWN *2
H	H	OSD

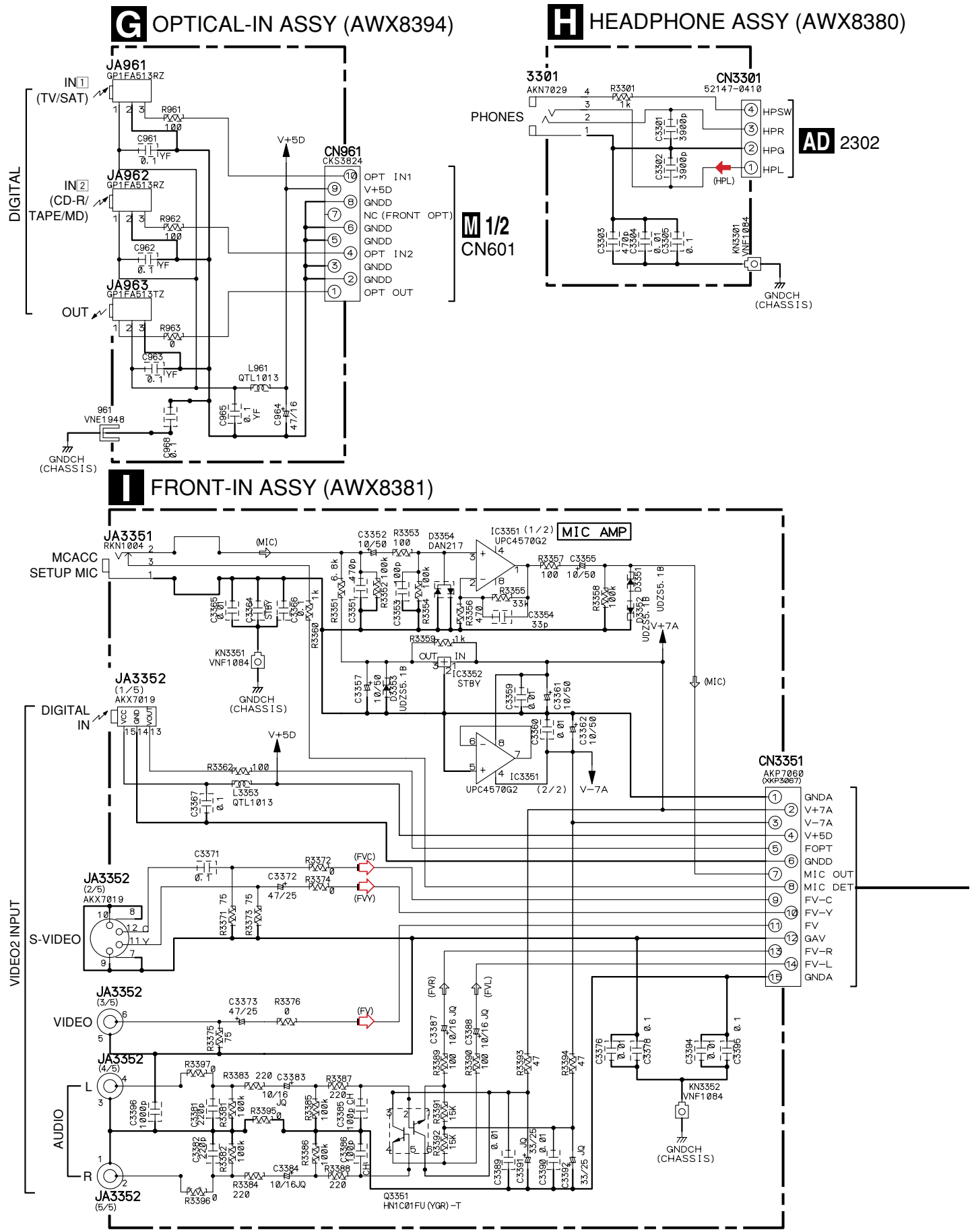
*1/ NO SYNC_DET (IC881 2P => "H")
*2/ SYNC_DET (IC881 2P => "L")


S-SYNC DET
SYNC SEP
V-SYNC SEP
GND
VCC
V45_6VS
SV
SDET
D882
1SS355
D881
1SS355
R881
330
R883
4.7k
R884
22k
R882
220k
C883
100/16
C881
100/16
Q881
UN5212
UCV
OSD
OUTV
R898
0
R841
52A
R842
52B
R891
1k
IC842(1/2)
TK15420M
IC842 (2/2)
TK15420M
V-5_6VS
IC841
TC74HC4052AF
VDD
VEE
VSS
INH
R843
10k
R844
10k
R845
2.0k
R846
2.0k
R847
2.0k
R848
2.0k
C841
0.047
C842
0.047
C843
100/16
C844
100/16
C845
0.047
C846
0.047
R897
0
UCC
OUTC
R809
75
R810
75
C809
0.1
C811
1800p
C812
1800p
CN811
(3/3)
AKP7043
DVR/VCR
OUT
S-VIDEO
R849
75
R850
75
C884
1000/10
C810
0.1
C813
1800p
C814
1800p
CN812
(3/3)
AKP7043
MONITOR
OUT
R886
10k
R885
10k
Y/C MIX BLOCK
IC871
(1/2)
TK15420M
Y INVERT
R875
1.6k
C871
100/16
C872
100/16
C873
0.047
C874
0.047
R877
2k
IC871
(2/2)
TK15420M
R878
0
R876
2k
MXV
D851
DAP202K
VOS1
VOS2
L851
10u
L852
10u
C851
100/16
C852
100/16
GAVS
IC851
PDC084B
OSD
VDD1
RST
C3
C2
SEPin
SEPout
SEPc
SYNin
VDD1
CVin
VSS2
CVout
VSS1
Xin
Xout
C1
BLANK
OSCin
OSCout
CHARA
CS
CK
DT
VDD2
C853
0.047
C854
0.047
C855
15p
X851
ASS1056
14.32MHz
C856
18p
C857
24p
C858
24p
C859
47p
C860
0.047
C861
0.047
C862
100p
R855
1k
R856
9.1k
R857
10k
R858
2.2k
R852
470
R853
1k
R854
1k
R892
0
Q852
2SC4081
C864
100/16
C866
33p
OSD BLOCK
OSDRT
OSDDT
OSDCK
OSDCS
CN802
52044-1745
86B
86A
52B
52A
SW4
SW3
SW2
MR2
MR1
OSDRT
OSDCS
OSDDT
OSDCK
SDET
I2CK
I2DT
2586B
2586A
4052B
4052A
VIDEO3
VIDEO2
VIDEO1
MRSW2
MRSW1
OSD RT
OSD CS
OSD DT
OSD CK
SY DET
I2C CK
I2C DT
NC
AC CN953
CN851
AKP7071
(XKP3078)
NC
OSD
GAV
MIXV
GAV
OUT_C
GAV
OUT_Y
GAV
UCC
GAV
UCV
GAV
I2C CK
I2C DT
F CN5051
CN893
KM200TA6
12CDT
12CCK
GAV
OUTY
GAV
OUTC
CN891
KM200TA10
12CDT
12CCK
GAV
UCY
GAV
UCC
GAV
MXV
GAV
OSD
C CN891
CN892
AKP7060
(XKP3067)
12CDT
12CCK
GAV
UCY
GAV
UCC
GAV
OUTY
GAV
OUTC
GAV
MXV
GAV
OSD
NC
E
VIDEO SIDE ASSY
(AWX8366)


F COMPONENT (AWX8358)
: VIDEO SIGNAL ROUTE
(Cb) : VIDEO SIGNAL ROUTE (Cb)
(Y) : VIDEO SIGNAL ROUTE (Y)
(Cr) : VIDEO SIGNAL ROUTE (Cr)
COMPONENT VIDEO
JA5001 (1/3)
AKB7124
JA5002
AKB7124
IN 1
IN 2
Y
PB
PR
CHASSIS
GAVD
YC
UP
SCP
IC5021 (1/2) TK15420M
IC5021 (2/2) TK15420M
IC5022
TA1270BF
CHROMA DECODE
V+5VDB
V+5VDU
V-5VDB
OUTY
OUTC
0db BUF
X5021 4.43MHz
X5022 3.58MHz
GND

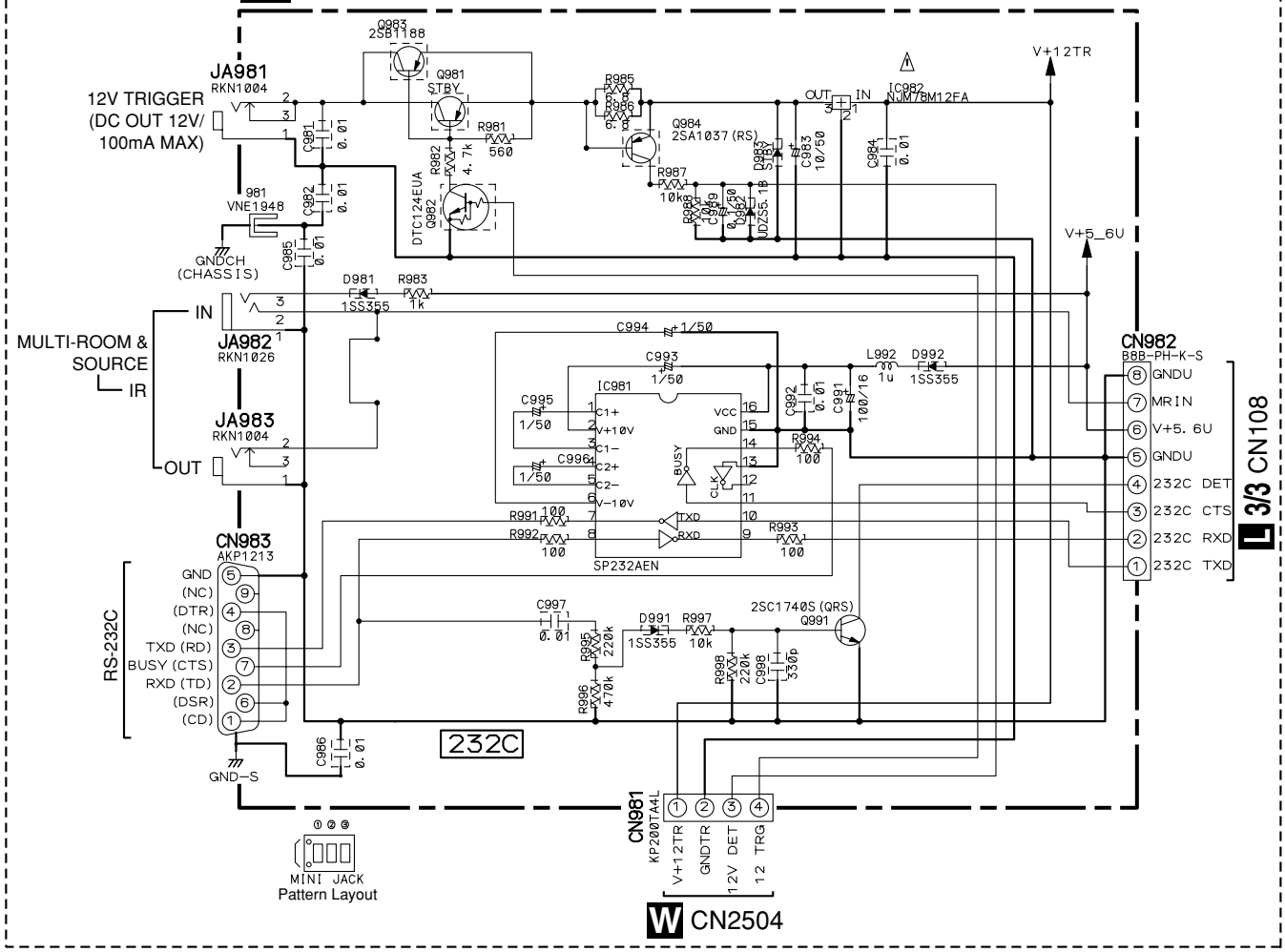

V+5VDB
V-5VDB
IC5001
NJM2588M
JA5003
AKB7124
MONITOR OUT
COMPONENT VIDEO
Y
PB
PR
IC5001
86A 86B OUT
L L MUTE
L H 1N1
H L 1N2
H H OSD
IC5051 (2/1)
TK15420M
IC5051
TK15420M (2/2)
IC5052
TK15420M
IC5052
TK15420M (2/2)
5001
VEF1040-A
CN5001
KO200TA7L
CN5051
KP200TA6L
W CN2503
E CN893

3.7 OPTICAL-IN,H.P,FRONT-IN,FRONT-IN CONNECT and 12VTRIG ASSYS

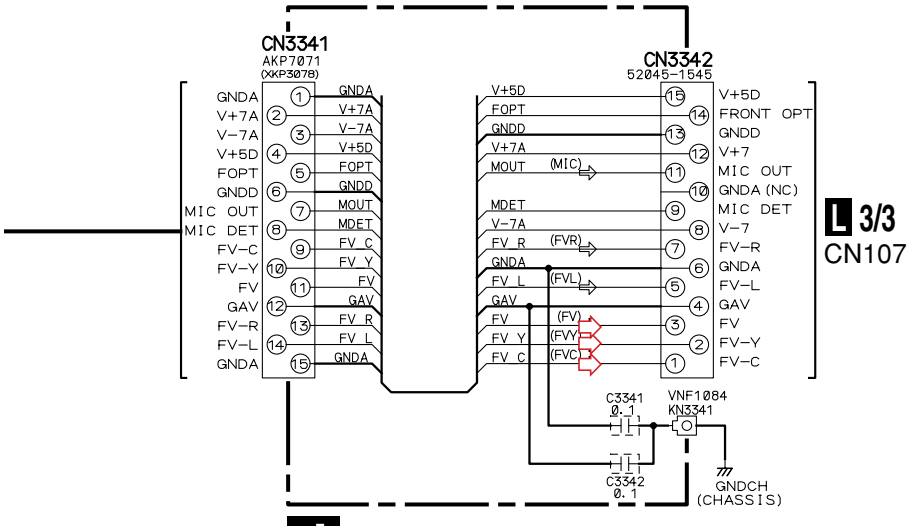


G H I

K 12V TRIGGER ASSY (AWX8395)



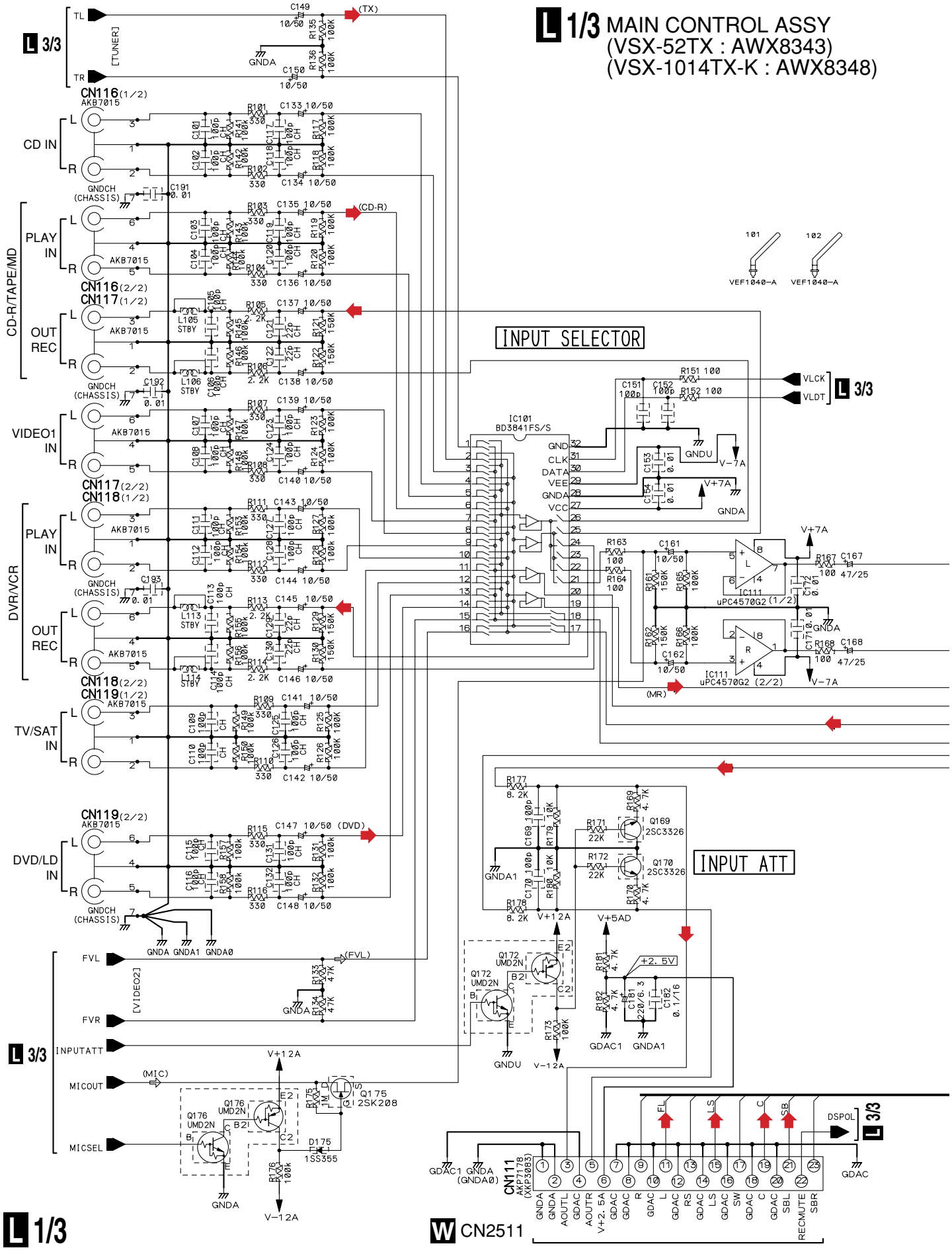
VSX-52TX ONLY



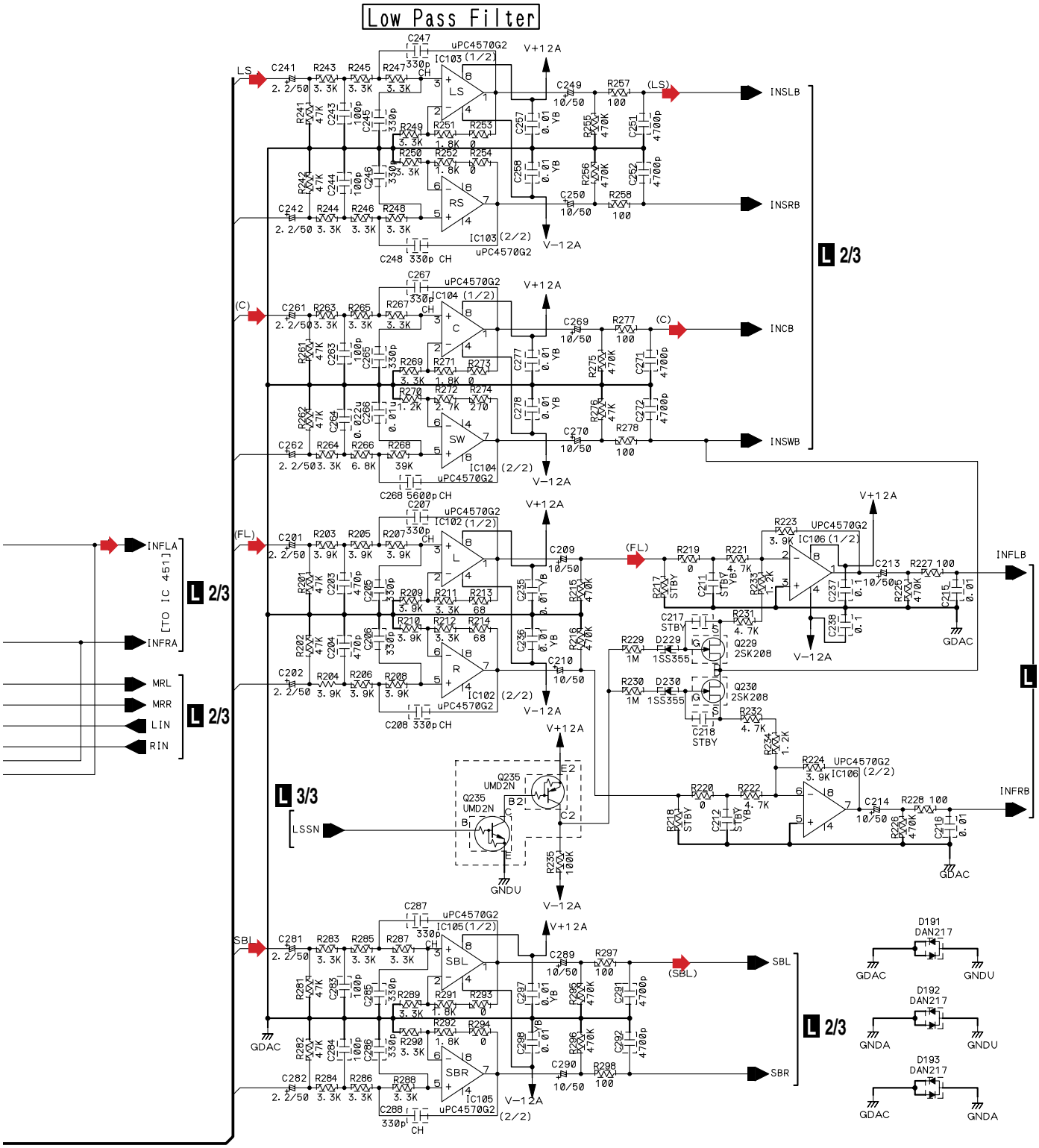
J FRONT-IN CONNECT ASSY (AWX8416)

⇨ : VIDEO SIGNAL ROUTE
(V) ⇨ : VIDEO SIGNAL ROUTE (V)
(Y) ⇨ : VIDEO SIGNAL ROUTE (Y)
(C) ⇨ : VIDEO SIGNAL ROUTE (C)

3.8 MAIN CONTROL ASSY (1/3)



Low Pass Filter



: AUDIO SIGNAL ROUTE (Lch)

(CD-R) : AUDIO SIGNAL ROUTE (CD-R Lch)

(TX) : AUDIO SIGNAL ROUTE (TUNER Lch)

(MR) : AUDIO SIGNAL ROUTE (MULTI-ROOM Lch)

(DVD) : AUDIO SIGNAL ROUTE (DVD Lch)

(FL) : AUDIO SIGNAL ROUTE (FRONT Lch)

(LS) : AUDIO SIGNAL ROUTE (SURROUND Lch)

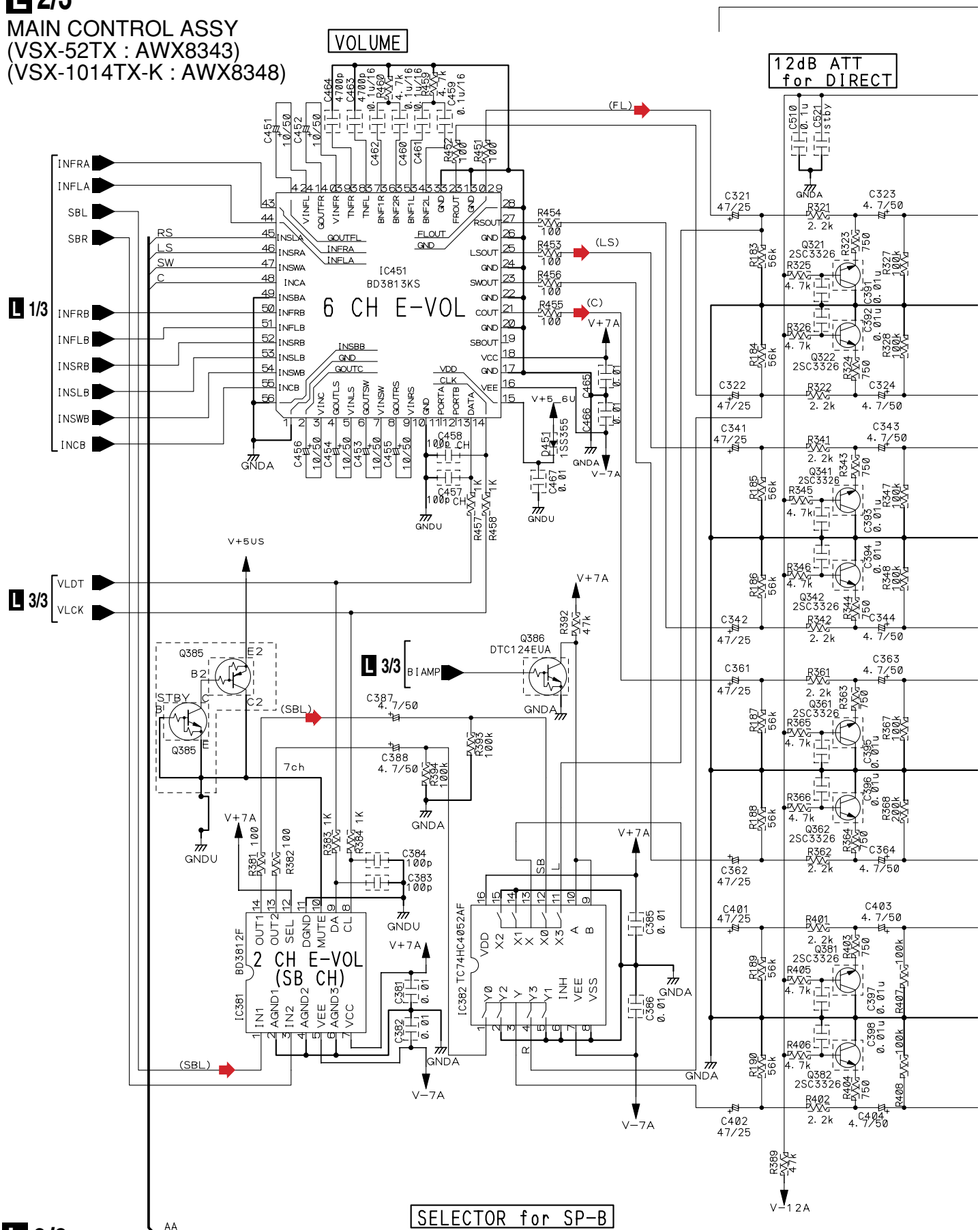
(SBL) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)

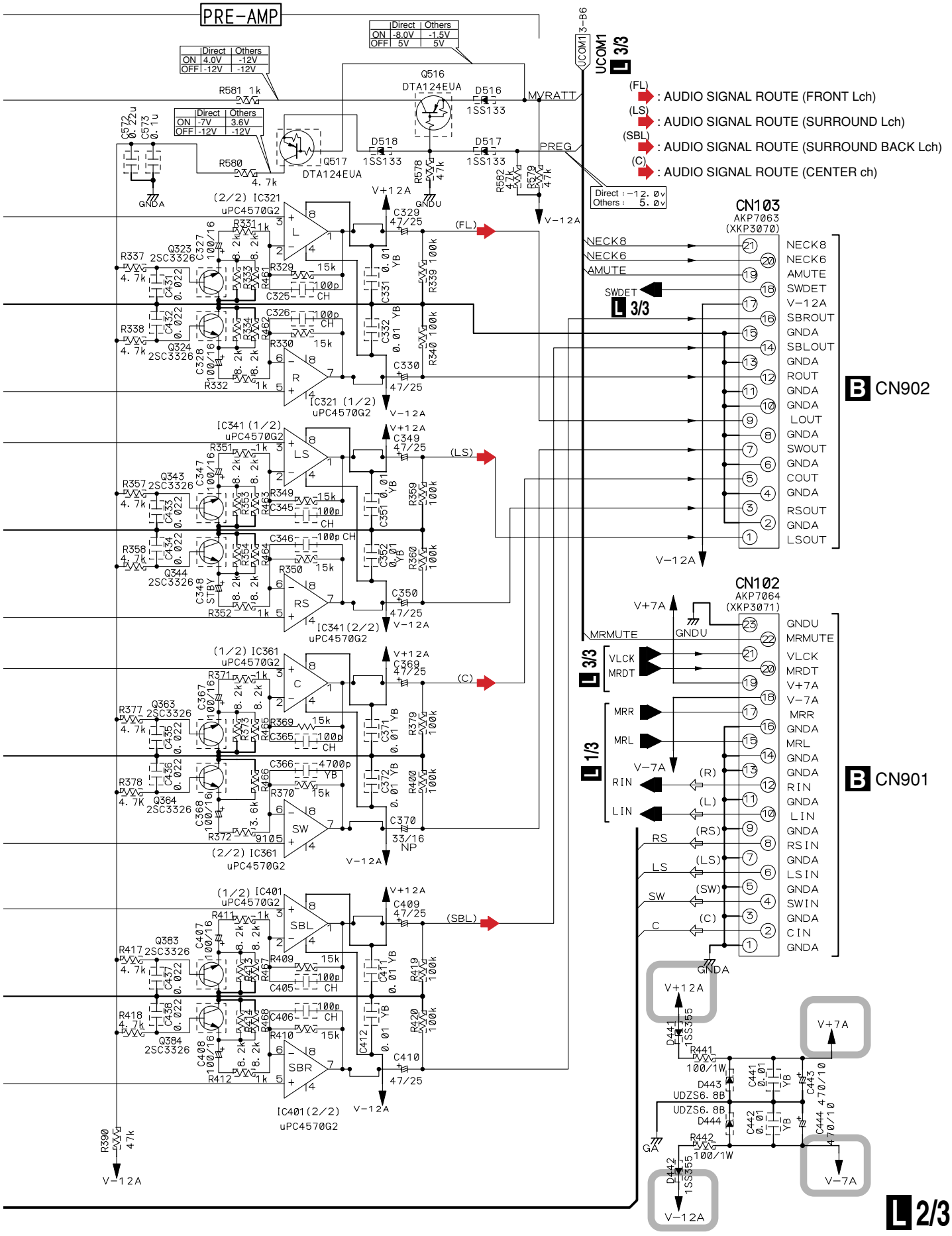
(C) : AUDIO SIGNAL ROUTE (CENTER ch)

L 1/3

L 2/3

MAIN CONTROL ASSY
(VSX-52TX : AWX8343)
(VSX-1014TX-K : AWX8348)



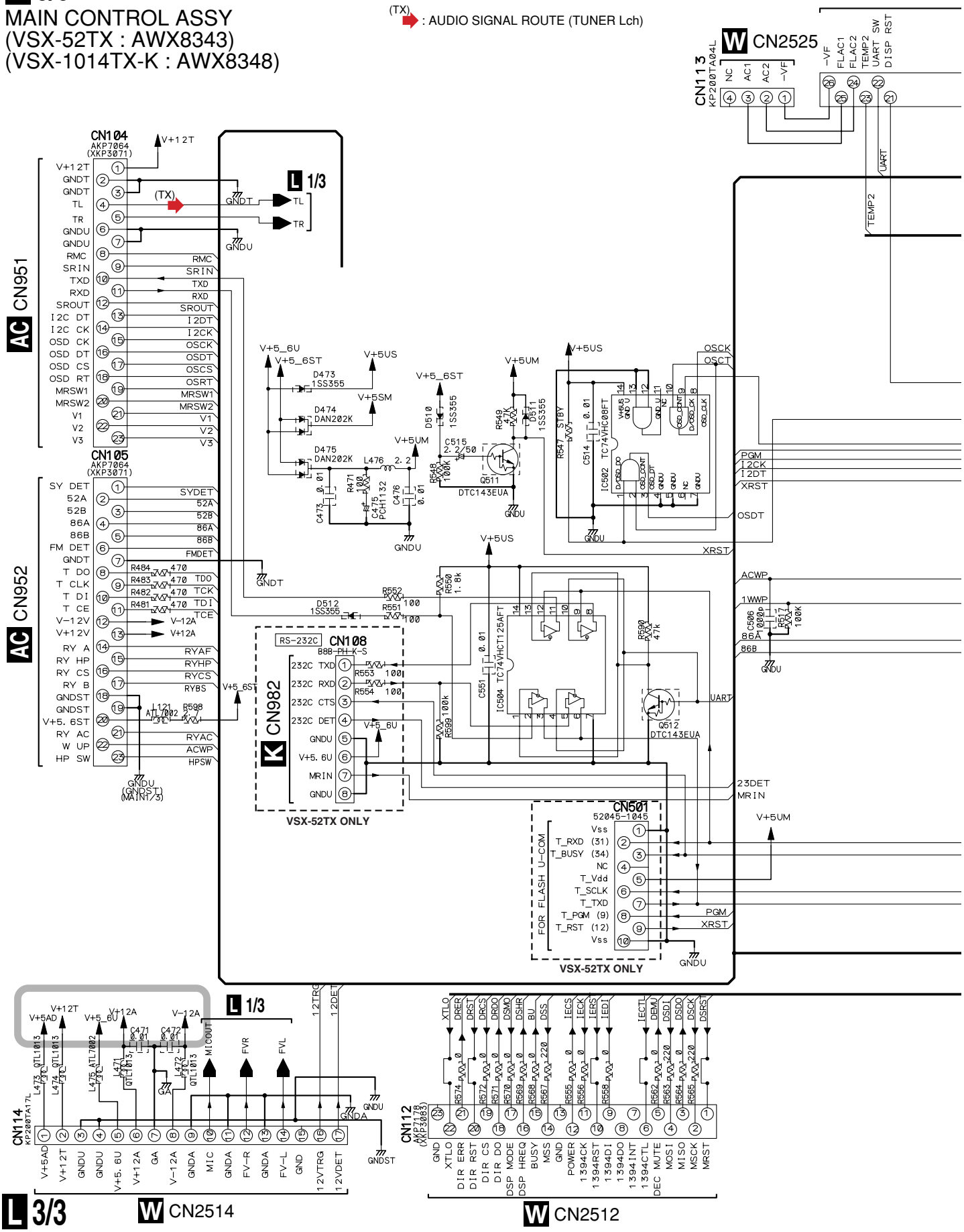

PRE-AMP
(FL) : AUDIO SIGNAL ROUTE (FRONT Lch)
(LS) : AUDIO SIGNAL ROUTE (SURROUND Lch)
(SBL) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
(C) : AUDIO SIGNAL ROUTE (CENTER ch)
UCOM1 L 3/3
CN103
AKP7063
(XKP3070)
B CN902
CN102
AKP7064
(XKP3071)
B CN901
L 3/3
L 1/3
L 2/3
IC321 (1/2) uPC4570G2
(2/2) IC321 uPC4570G2
IC341 (1/2) uPC4570G2
IC341(2/2) uPC4570G2
(1/2) IC361 uPC4570G2
(2/2) IC361 uPC4570G2
(1/2) IC401 uPC4570G2
IC401(2/2) uPC4570G2
Q516 DTA124EUA
Q517 DTA124EUA
D516 1SS133
D517 1SS133
D518 1SS133
MVRATT
PREG
V+12A
V-12A
V+7A
V-7A
GNDA
GNDU
MRMUTE
SWDET
NECK8
NECK6
AMUTE
VLCK
MRDT
MRR
MRL
RIN
LIN
RS
LS
SW
C
SBR
SBL
D441 1SS355
D442 1SS355
D443 UDZS6.8B
D444 UDZS6.8B
R441 100/1W
R442 100/1W

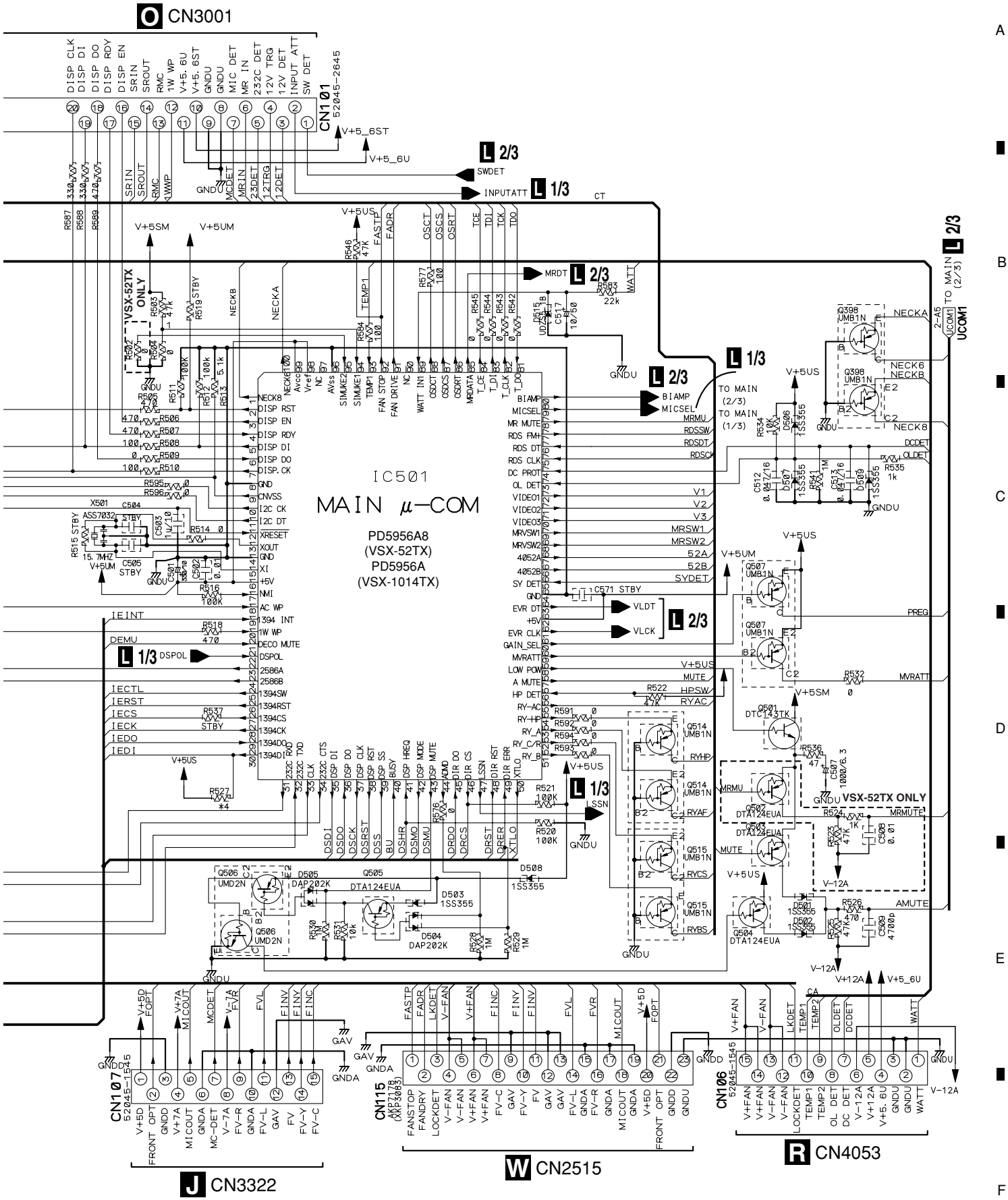
3.10 MAIN CONTROL ASSY (3/3)

L 3/3

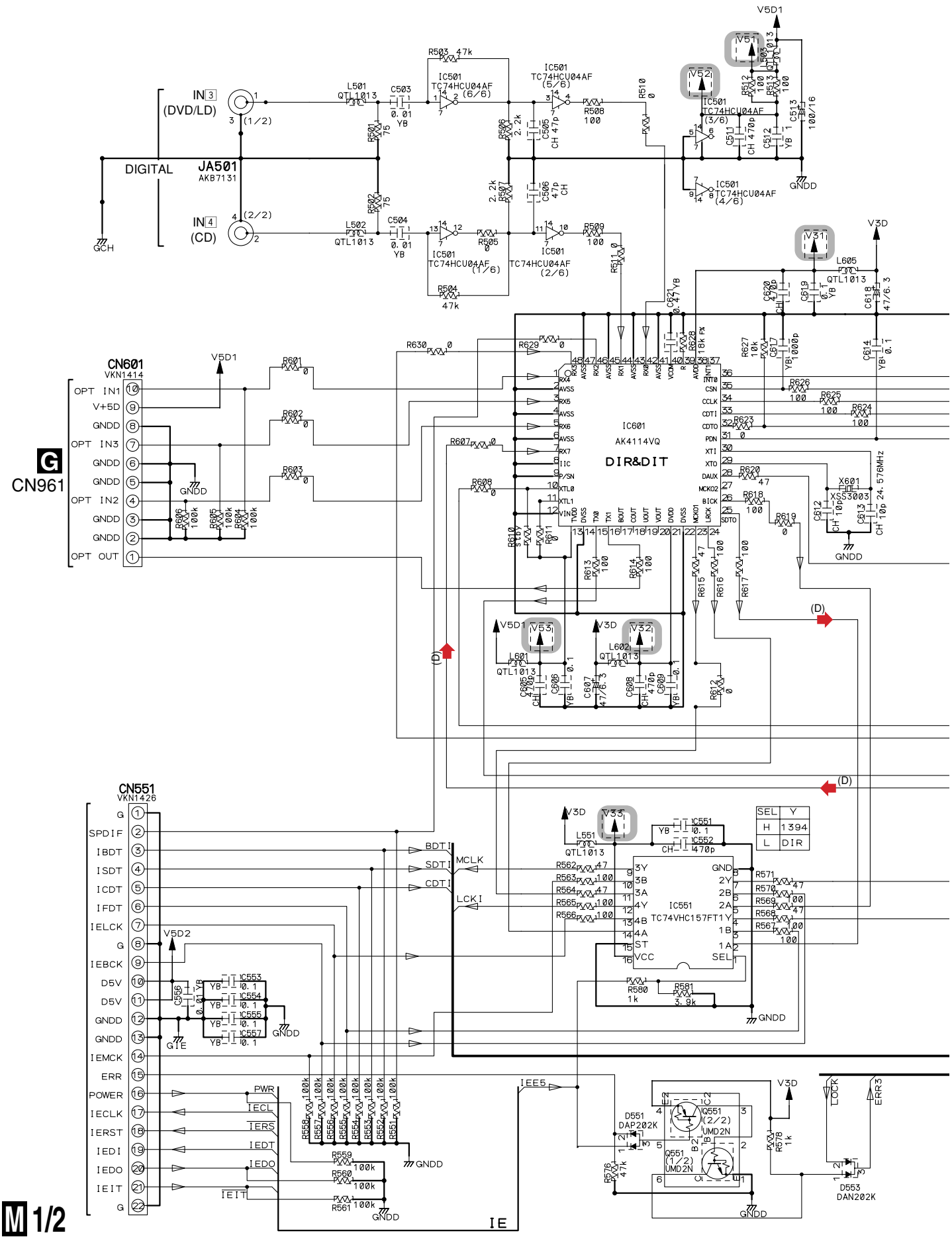
MAIN CONTROL ASSY
(VSX-52TX : AWX8343)
(VSX-1014TX-K : AWX8348)

(TX) : AUDIO SIGNAL ROUTE (TUNER Lch)

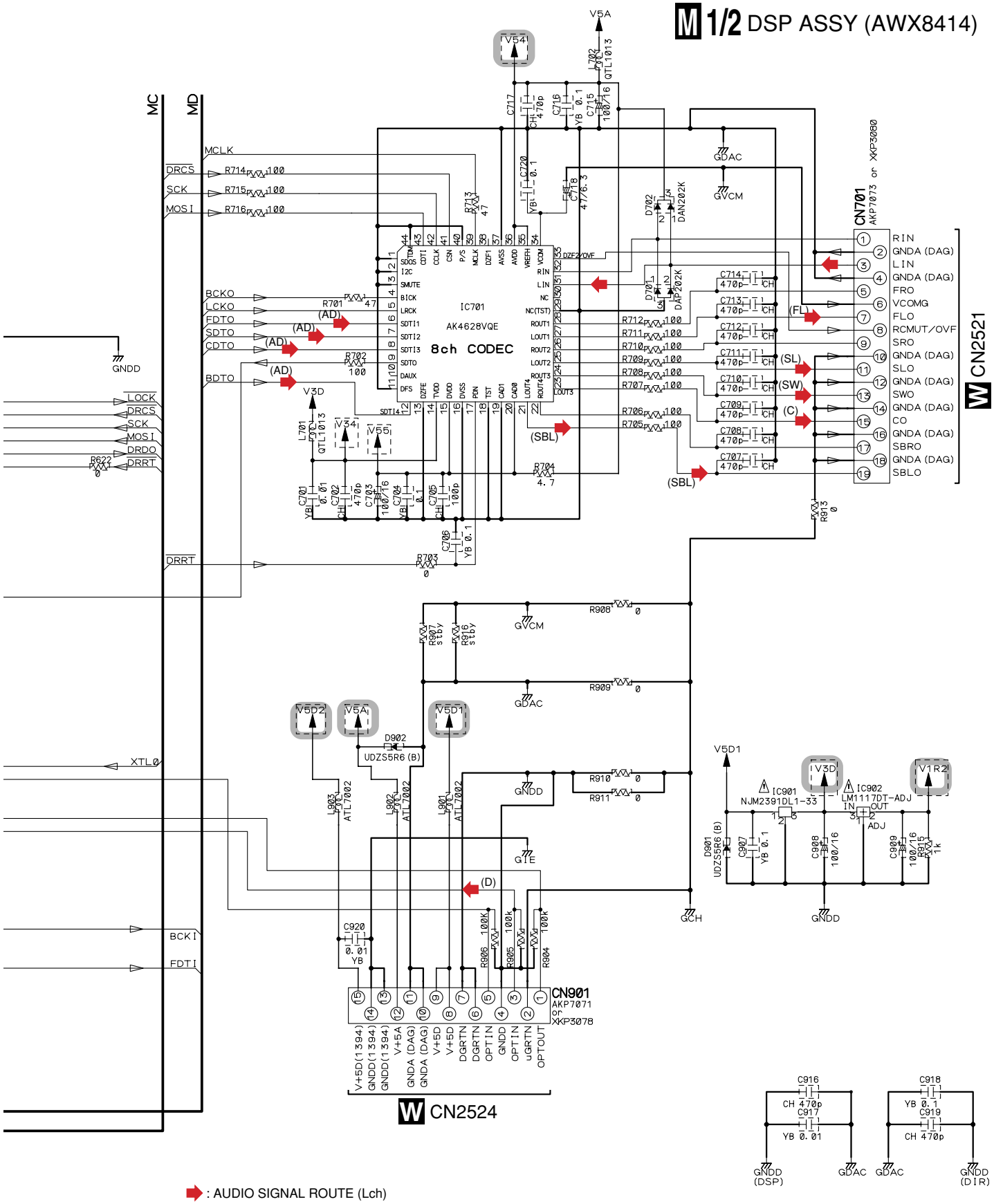



O CN3001
CN101
52045-2645
DISP CLK
DISP DI
DISP DO
DISP RDY
DISP EN
SRIN
SROUT
RMC
1W WP
V+5. 6U
V+5. 6ST
GNDU
MIC DET
MR IN
232C DET
12V TRG
12V DET
INPUT ATT
SW DET
V+5_6ST
V+5_6U
SWDET
INPUTATT
L 2/3
L 1/3
V+5SM
V+5UM
V+5US
VSX-52TX ONLY
IC501
MAIN μ-COM
PD5956A8
(VSX-52TX)
PD5956A
(VSX-1014TX)
L 1/3 DSPOL
L 2/3 SSN
L 2/3 VLDT
L 2/3 VLCK
L 2/3 BIAMP
L 2/3 MICSEL
L 1/3 TO MAIN (2/3)
L 1/3 TO MAIN (1/3)
L 2/3 TO MAIN (2/3)
UCOM1
MRDT
VLDT
VLCK
BIAMP
MICSEL
MRMU
RDSSW
RDSDT
RDSCK
DCDET
OLDET
V1
V2
V3
MRSW1
MRSW2
52A
52B
SYDET
VLDT
VLCK
PREG
MVRATT
MUTE
HPSW
RYAC
RYHP
RYAF
RYCS
RYBS
AMUTE
V-12A
V+12A
V+5_6U
GNDU
GNDD
GNDA
GAV
J CN3322
CN107
W CN2515
CN115
R CN4053
CN106
L 3/3
VSX-52TX
43

3.11 DSP ASSY (1/2)



M 1/2 DSP ASSY (AWX8414)



: AUDIO SIGNAL ROUTE (Lch)

(D) : AUDIO SIGNAL ROUTE (DIGITAL)

(FL) : AUDIO SIGNAL ROUTE (FRONT Lch)

(C) : AUDIO SIGNAL ROUTE (CENTER ch)

(SL) : SURROUND SIGNAL ROUTE

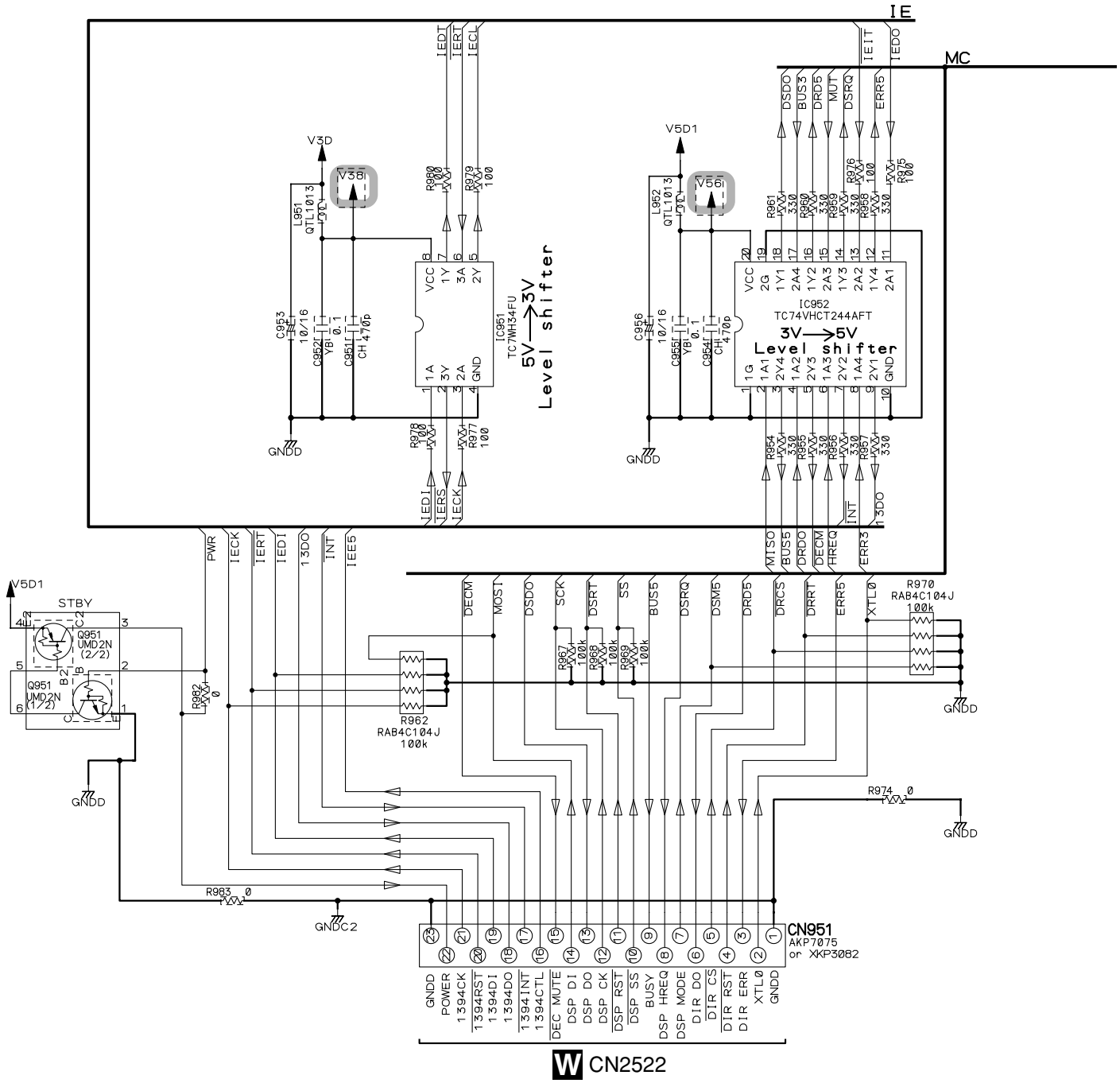
(SBL) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)

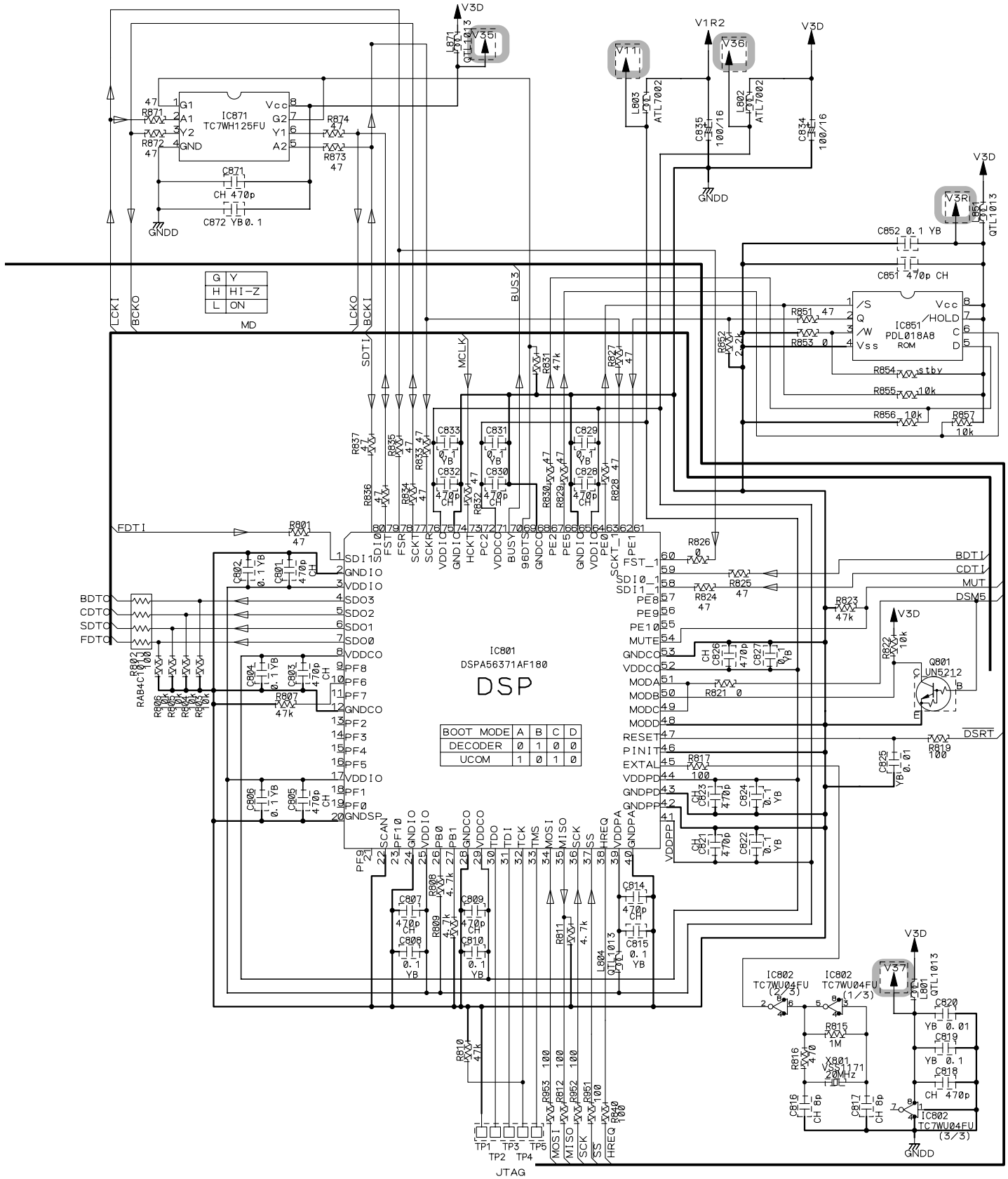
(SW) : AUDIO SIGNAL ROUTE (SUB WOOFER ch)

M 1/2

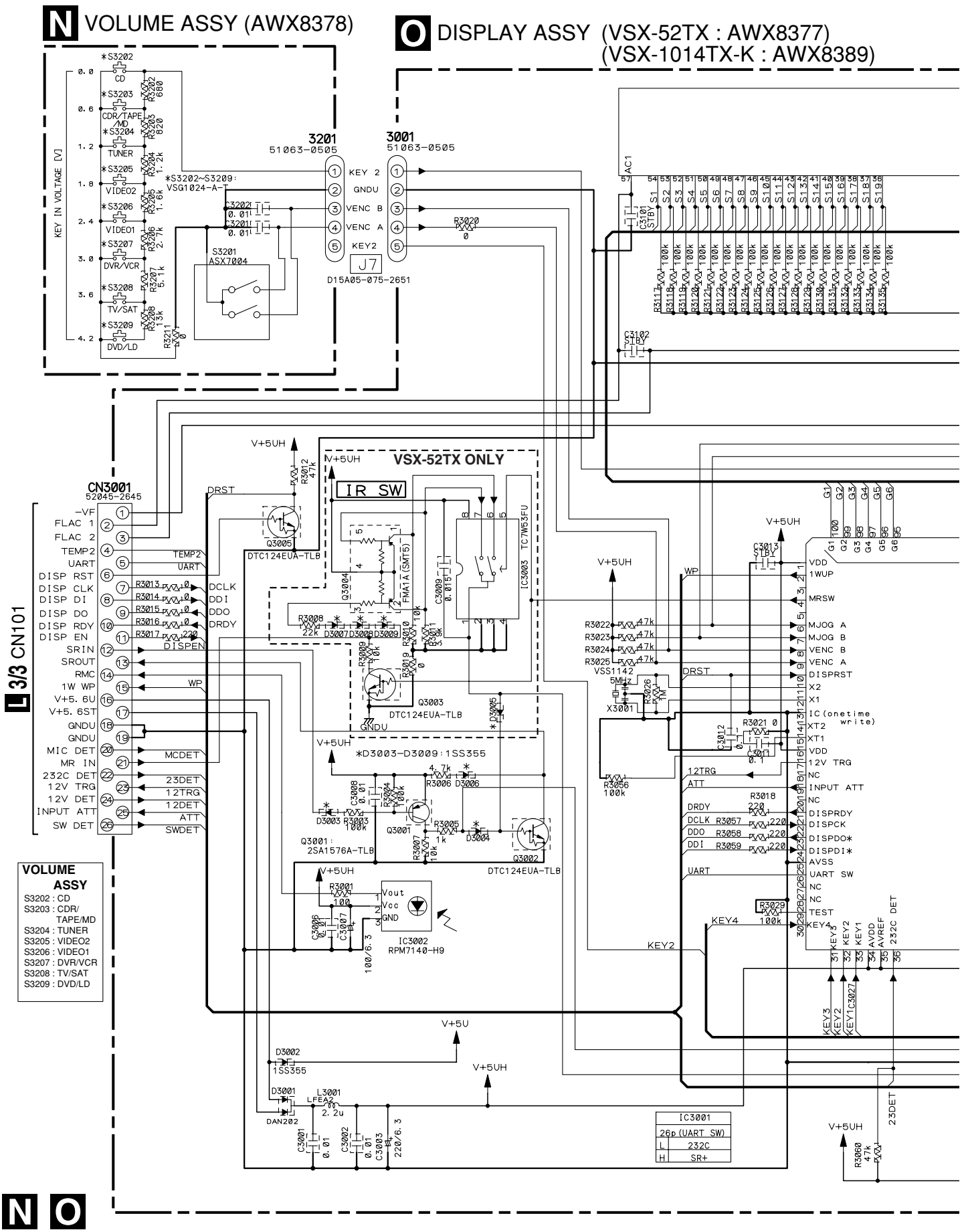
3.12 DSP ASSY (2/2)

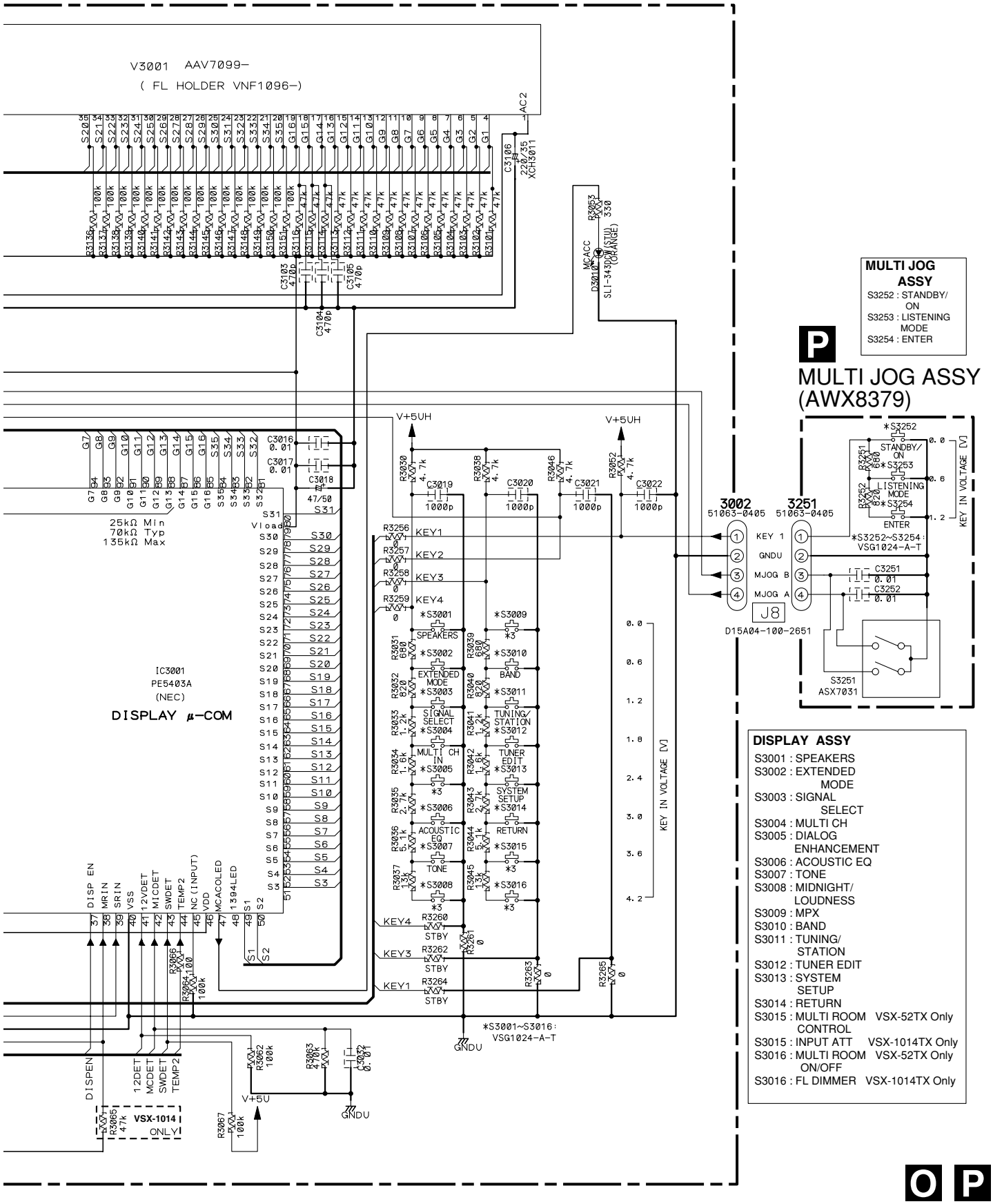
M 2/2 DSP ASSY (AWX8414)



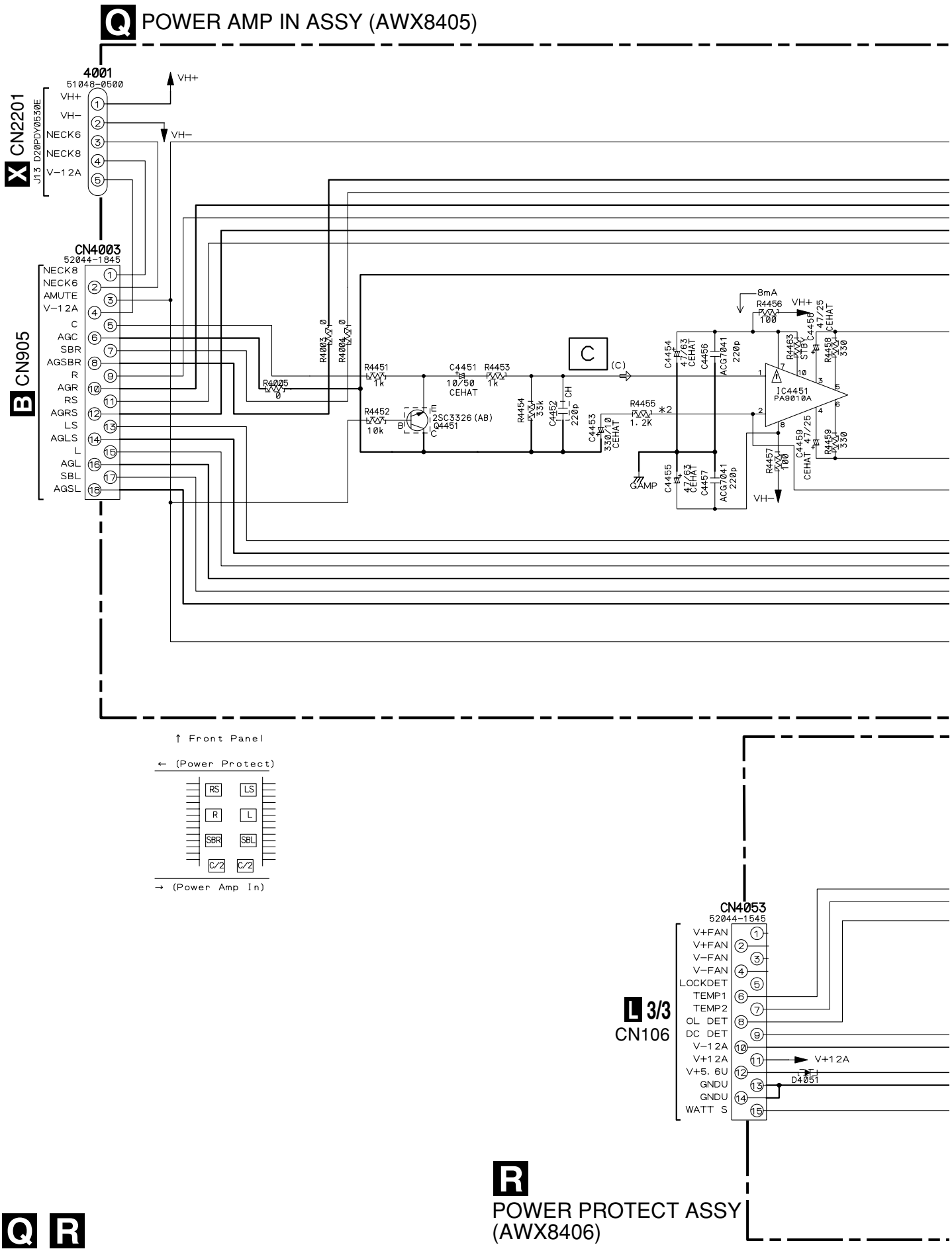

IC801
DSPA56371AF180
DSP
IC871
TC7WH125FU
IC851
PDL018A8
ROM
IC802
TC7WU04FU
MD
JTAG
V3D
V1R2
GNDD
FDTI
BDTI
CDTI
MUT
DSMS
DSRT
LCKI
BCKO
LCKO
BCKI
SDTI
MCLK
BUS3
stby
BOOT MODE | A | B | C | D
DECODER | 0 | 1 | 0 | 0
UCOM | 1 | 0 | 1 | 0
G | Y
H | HI-Z
L | ON

3.13 VOLUME, DISPLAY and MULTI JOG ASSYS

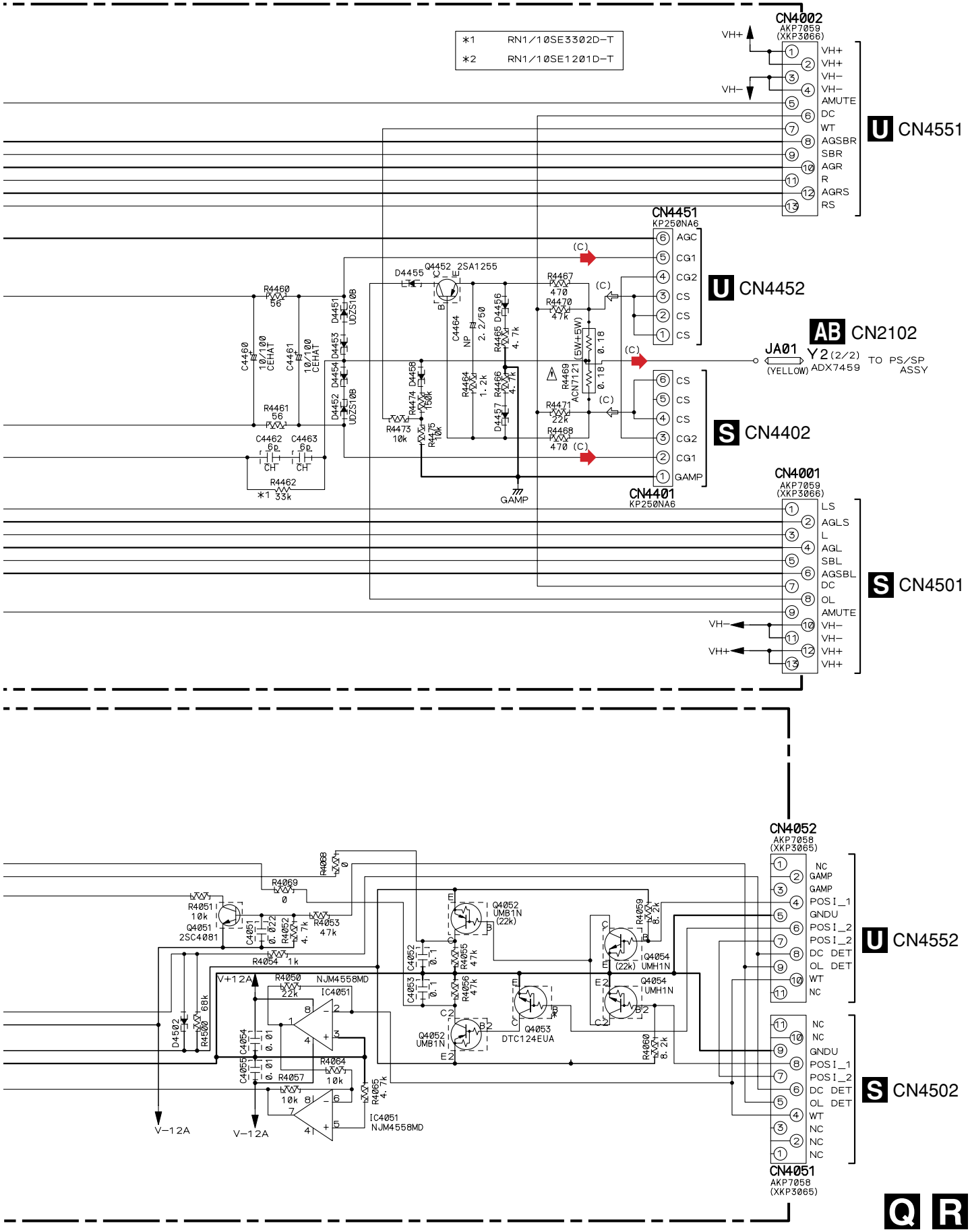



V3001 AAV7099-
(FL HOLDER VNF1096-)
IC3001
PE5403A
(NEC)
DISPLAY μ-COM
25kΩ Min
70kΩ Typ
135kΩ Max
V+5UH
KEY1
KEY2
KEY3
KEY4
SPEAKERS
EXTENDED MODE
SIGNAL SELECT
MULTI CH IN
ACOUSTIC EQ
TONE
BAND
TUNING/ STATION
TUNER EDIT
SYSTEM SETUP
RETURN
*S3001~S3016: VSG1024-A-T
GNDU
KEY IN VOLTAGE [V]
3002 51063-0405
3251 51063-0405
KEY 1
GNDU
MJOG B
MJOG A
J8
D15A04-100-2651
*S3252
STANDBY/ ON
*S3253
LISTENING MODE
*S3254
ENTER
*S3252~S3254: VSG1024-A-T
S3251 ASX7031
VSX-1014 ONLY
MULTI JOG ASSY
S3252 : STANDBY/ ON
S3253 : LISTENING MODE
S3254 : ENTER
P
MULTI JOG ASSY (AWX8379)
DISPLAY ASSY
S3001 : SPEAKERS
S3002 : EXTENDED MODE
S3003 : SIGNAL SELECT
S3004 : MULTI CH
S3005 : DIALOG ENHANCEMENT
S3006 : ACOUSTIC EQ
S3007 : TONE
S3008 : MIDNIGHT/ LOUDNESS
S3009 : MPX
S3010 : BAND
S3011 : TUNING/ STATION
S3012 : TUNER EDIT
S3013 : SYSTEM SETUP
S3014 : RETURN
S3015 : MULTI ROOM CONTROL VSX-52TX Only
S3015 : INPUT ATT VSX-1014TX Only
S3016 : MULTI ROOM ON/OFF VSX-52TX Only
S3016 : FL DIMMER VSX-1014TX Only
O P

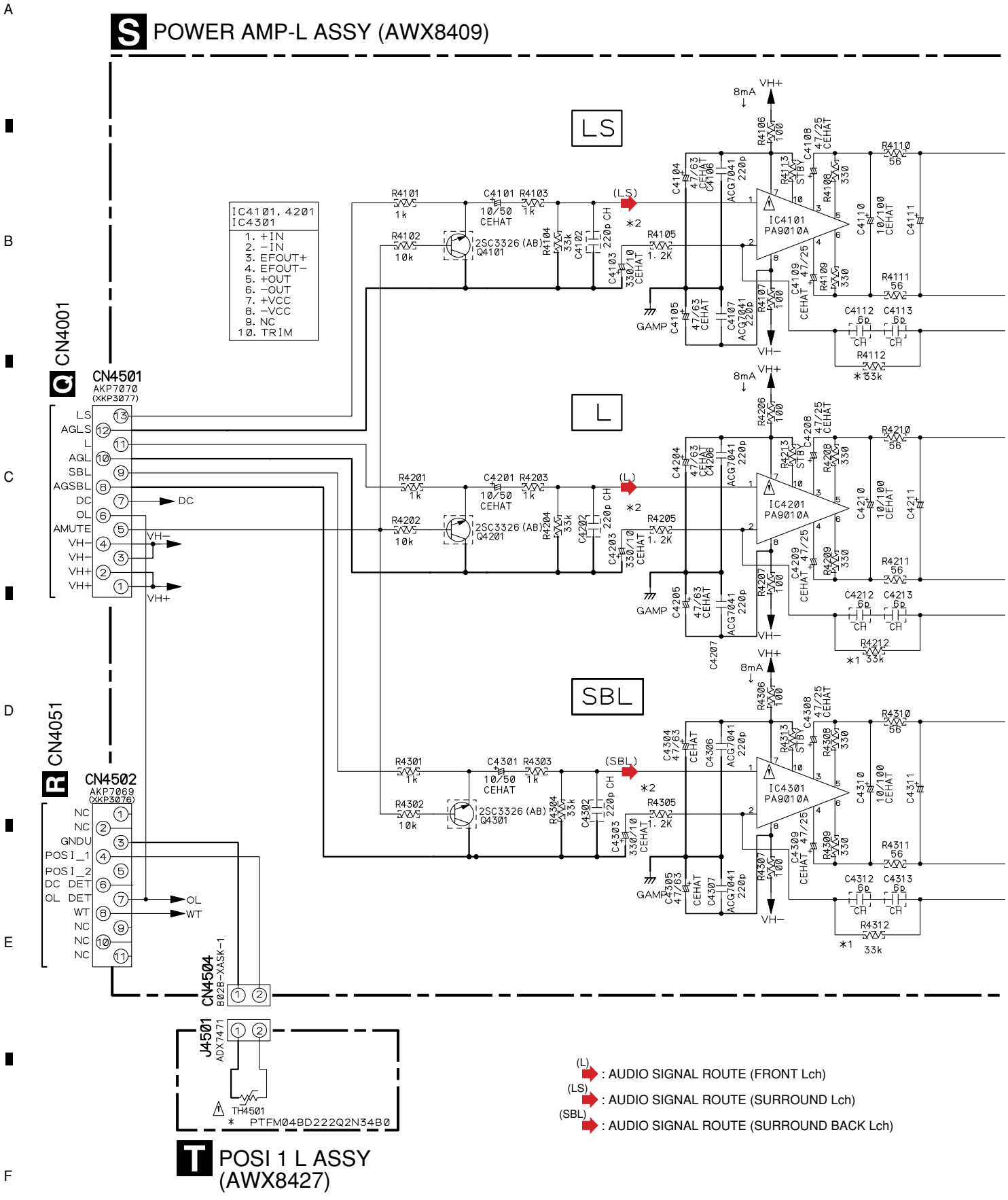
3.14 POWER AMP IN and POWER PROTECT ASSYS

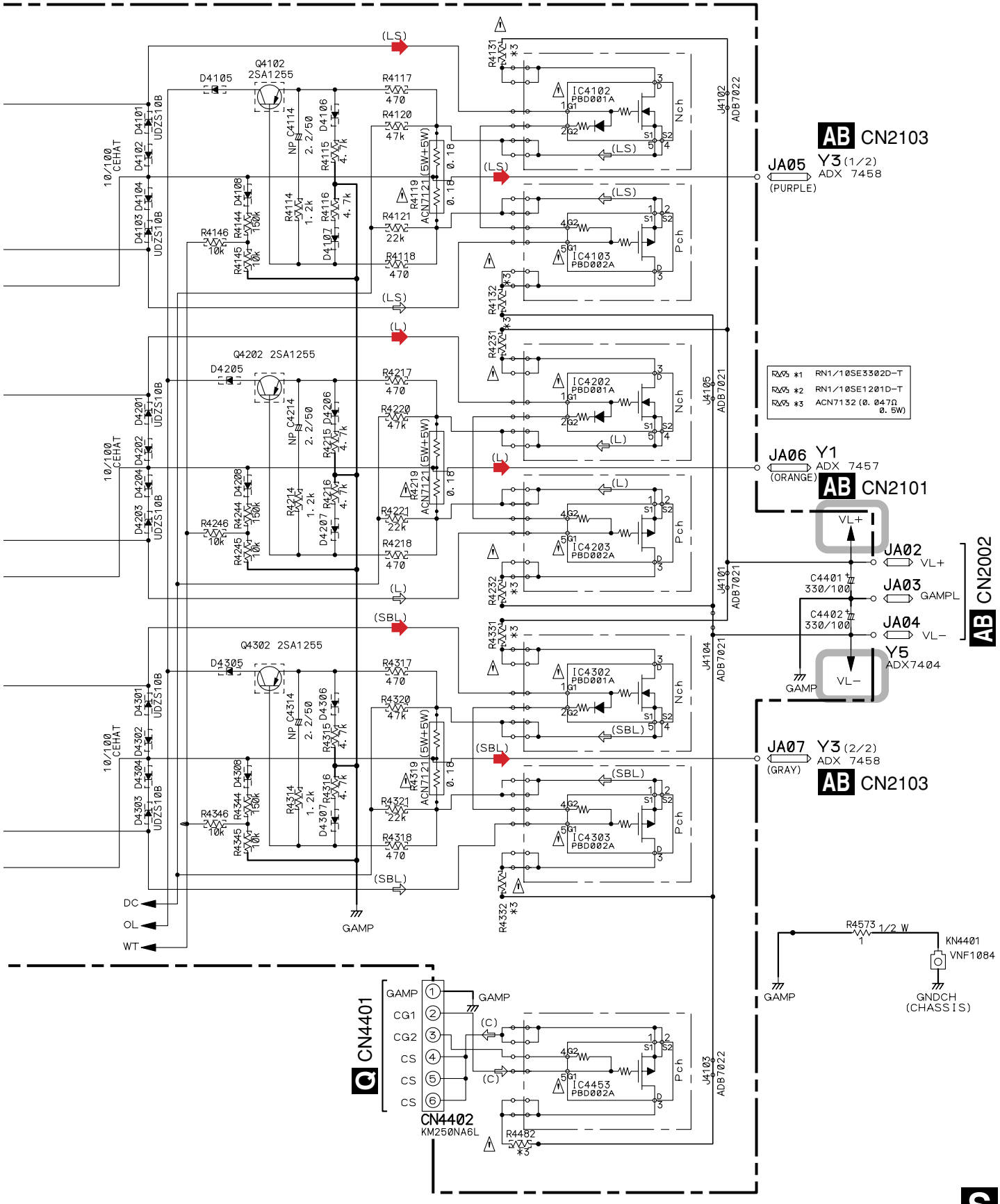


(C) : AUDIO SIGNAL ROUTE (CENTER ch)

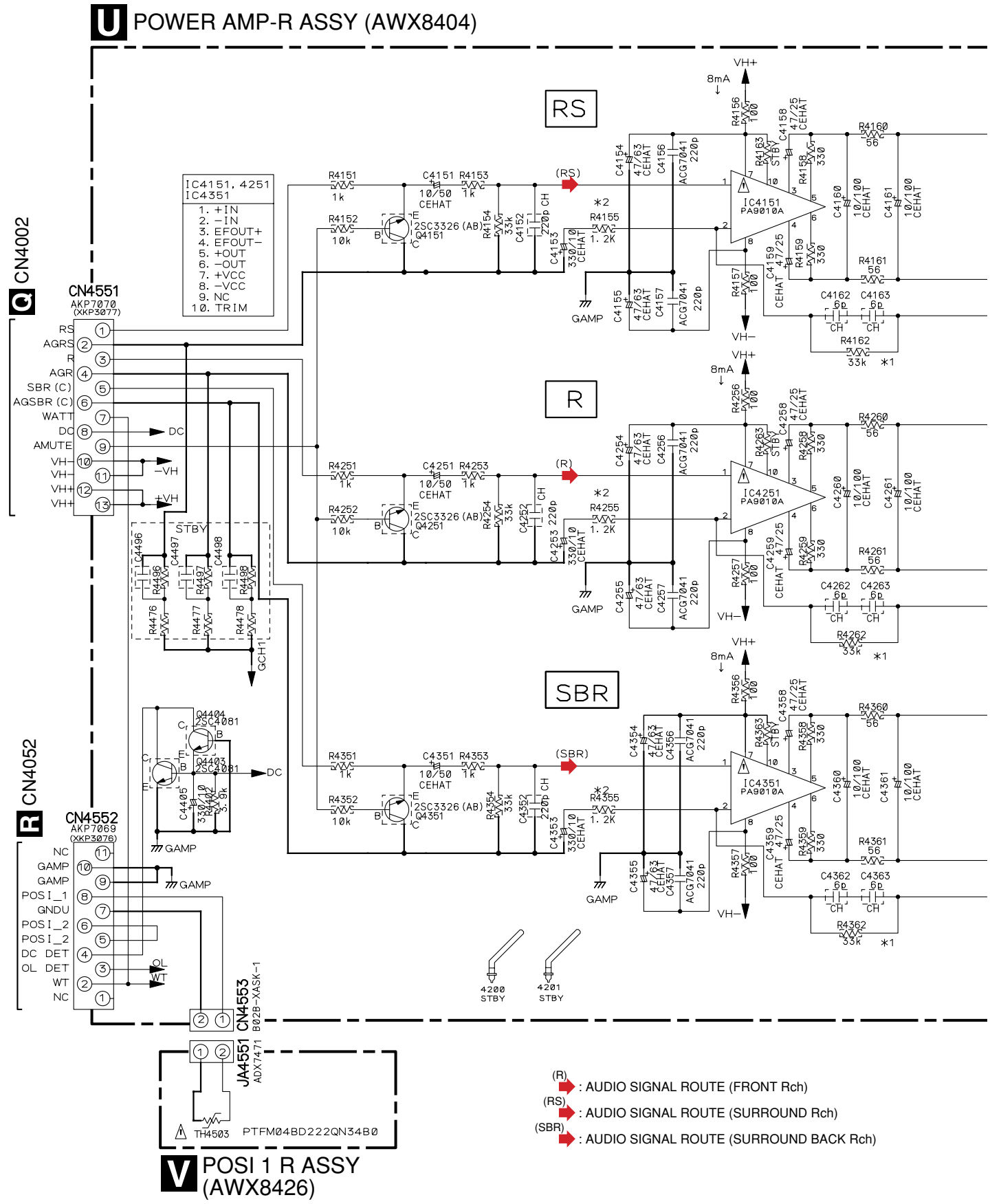


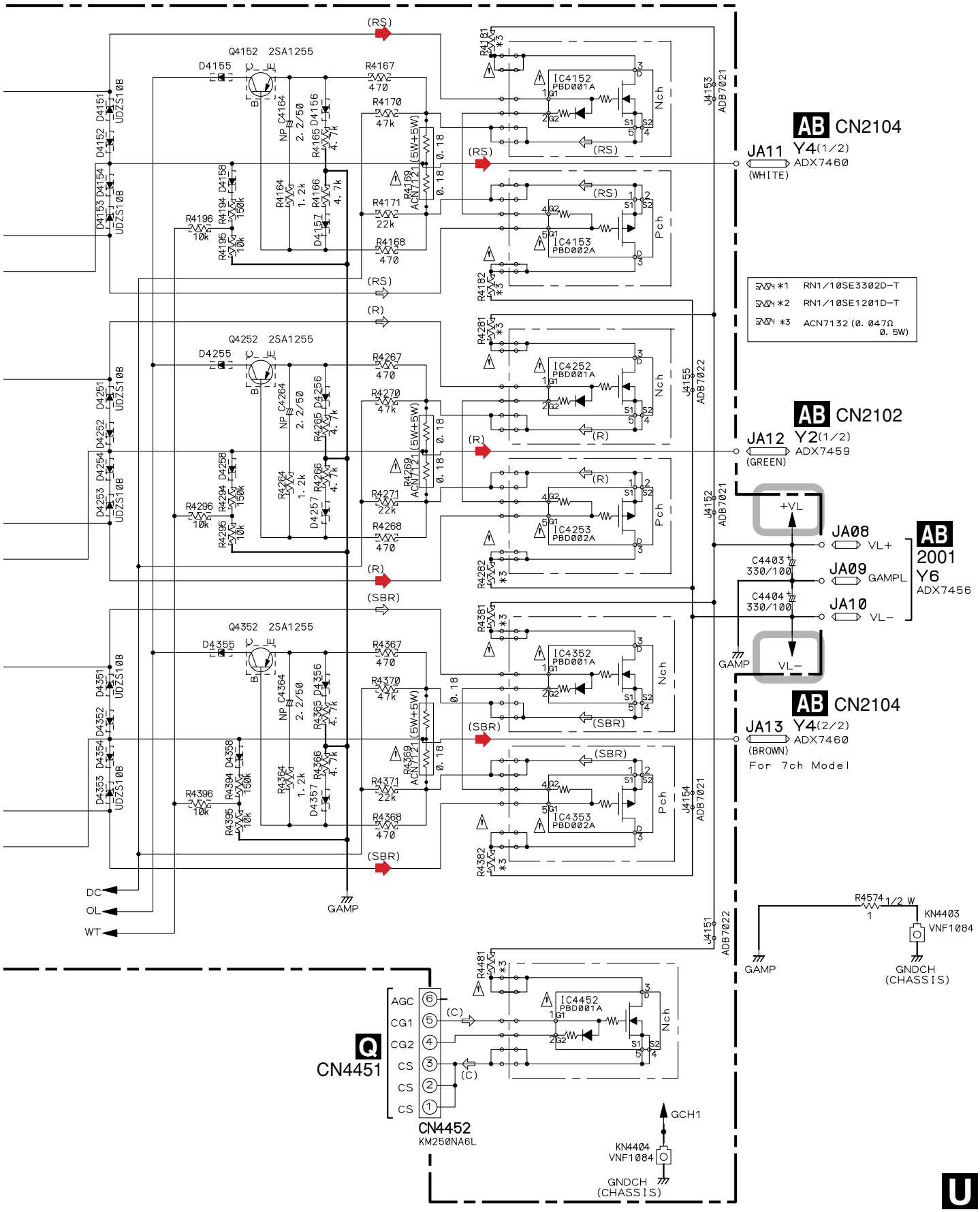
3.15 POWER AMP-L and POSI 1 L ASSYS




(LS)
Q4102 2SA1255
D4105
R4117 470
R4120 47k
R4121 22k
R4118 470
R4119 ACN7121 (5W+5W) 0.18 0.18
R4146 10k
R4145 10k
R4144 D4108 150k
R4114 1.2k
R4116 4.7k
D4107
R4115 4.7k
D4106
NP C4114 2.2/50
10/100 CEHAT
D4101 D4102 D4103 D4104 UDZS10B
R4131 *3
IC4102 PBD001A
IC4103 PBD002A
R4132 *3
Nch
Pch
J4102 ADB7022
(L)
Q4202 2SA1255
D4205
R4217 470
R4220 47k
R4221 22k
R4218 470
R4219 ACN7121 (5W+5W) 0.18
R4246 10k
R4245 10k
R4244 D4208 150k
R4214 1.2k
R4216 4.7k
D4207
R4215 4.7k
D4206
NP C4214 2.2/50
D4201 D4202 D4203 D4204 UDZS10B
R4231 *3
IC4202 PBD001A
IC4203 PBD002A
R4232 *3
J4105 ADB7021
J4101 ADB7021
(SBL)
Q4302 2SA1255
D4305
R4317 470
R4320 47k
R4321 22k
R4318 470
R4319 ACN7121 (5W+5W) 0.18
R4346 10k
R4345 10k
R4344 D4308 150k
R4314 1.2k
R4316 4.7k
D4307
R4315 4.7k
D4306
NP C4314 2.2/50
D4301 D4302 D4303 D4304 UDZS10B
R4331 *3
IC4302 PBD001A
IC4303 PBD002A
R4332 *3
J4104 ADB7021
J4103 ADB7022
R4482 *3
IC4453 PBD002A
*1 RN1/10SE3302D-T
*2 RN1/10SE1201D-T
*3 ACN7132 (0.047Ω 0.5W)
AB CN2103
JA05 Y3 (1/2) ADX 7458
(PURPLE)
JA06 Y1 ADX 7457
(ORANGE)
AB CN2101
VL+
VL−
JA02 VL+
JA03 GAMPL
JA04 VL−
AB CN2002
C4401 330/100
C4402 330/100
Y5 ADX7404
GAMP
JA07 Y3 (2/2) ADX 7458
(GRAY)
AB CN2103
R4573 1/2 W 1
KN4401 VNF1084
GNDCH (CHASSIS)
DC
OL
WT
Q CN4401
GAMP
CG1
CG2
CS
CS
CS
CN4402 KM250NA6L

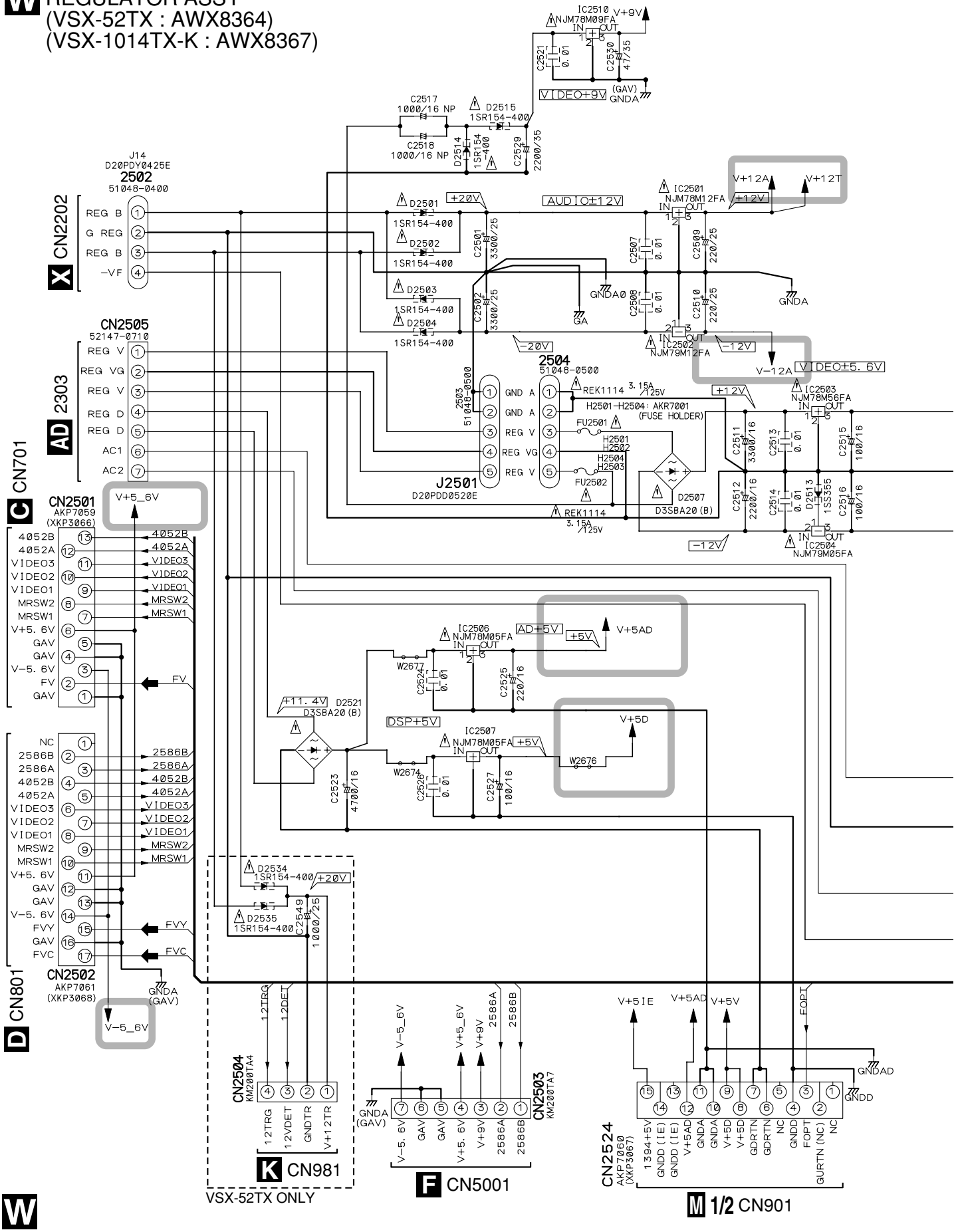
3.16 POWER AMP-R and POSI 1 R ASSYS

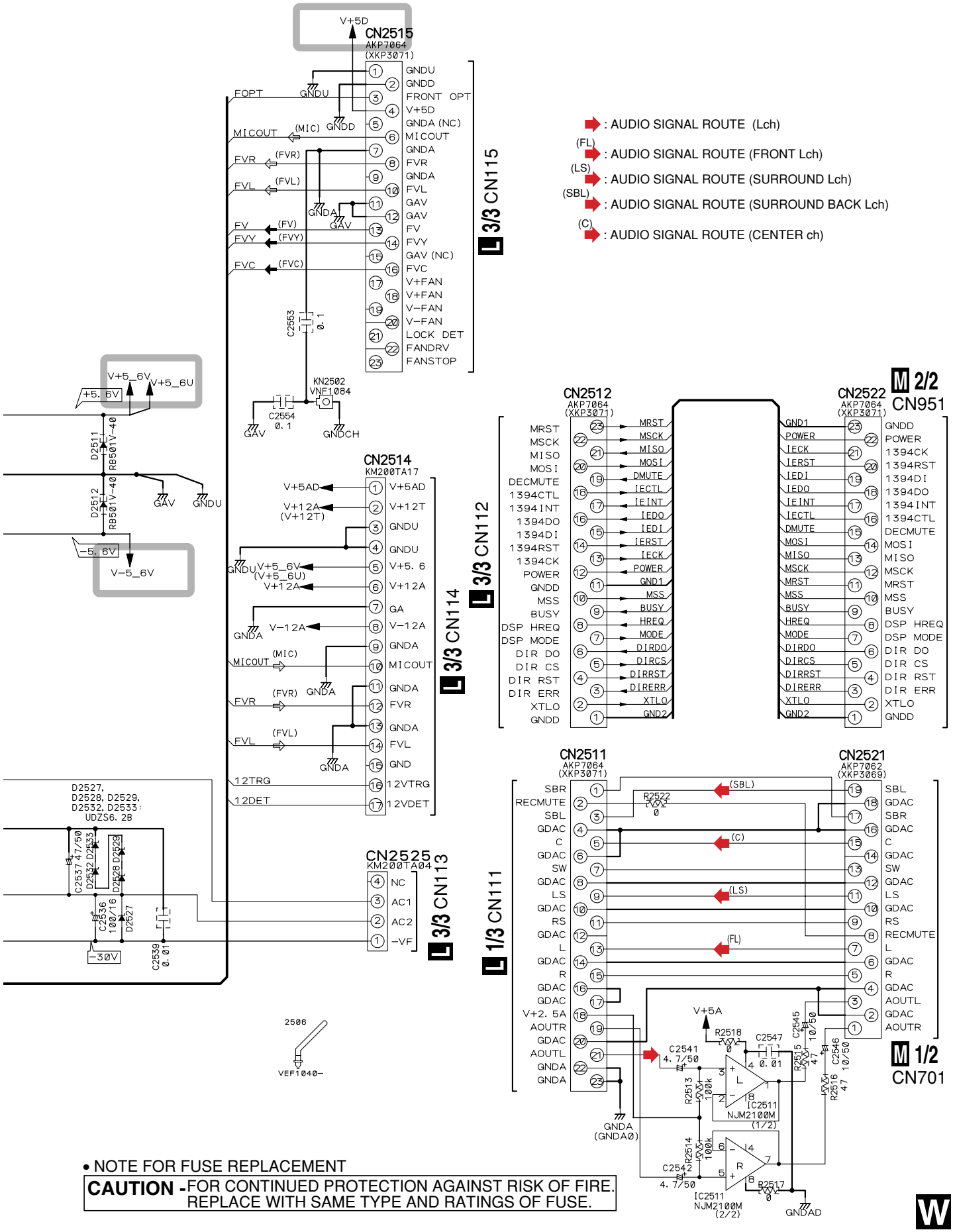



AB CN2104
JA11
Y4(1/2)
ADX7460
(WHITE)
AB CN2102
JA12
Y2(1/2)
ADX7459
(GREEN)
AB
2001
Y6
ADX7456
JA08
VL+
JA09
GAMPL
JA10
VL−
AB CN2104
JA13
Y4(2/2)
ADX7460
(BROWN)
For 7ch Model
Q
CN4451
CN4452
KM250NA6L
AGC
CG1
CG2
CS
CS
CS
DC
OL
WT
GAMP
GCH1
KN4404
VNF1084
GNDCH
(CHASSIS)
R4574
1/2 W
KN4403
VNF1084
GAMP
GNDCH
(CHASSIS)
*1 RN1/10SE3302D-T
*2 RN1/10SE1201D-T
*3 ACN7132 (0.047Ω 0.5W)
Nch
Pch
(RS)
(R)
(SBR)
(C)

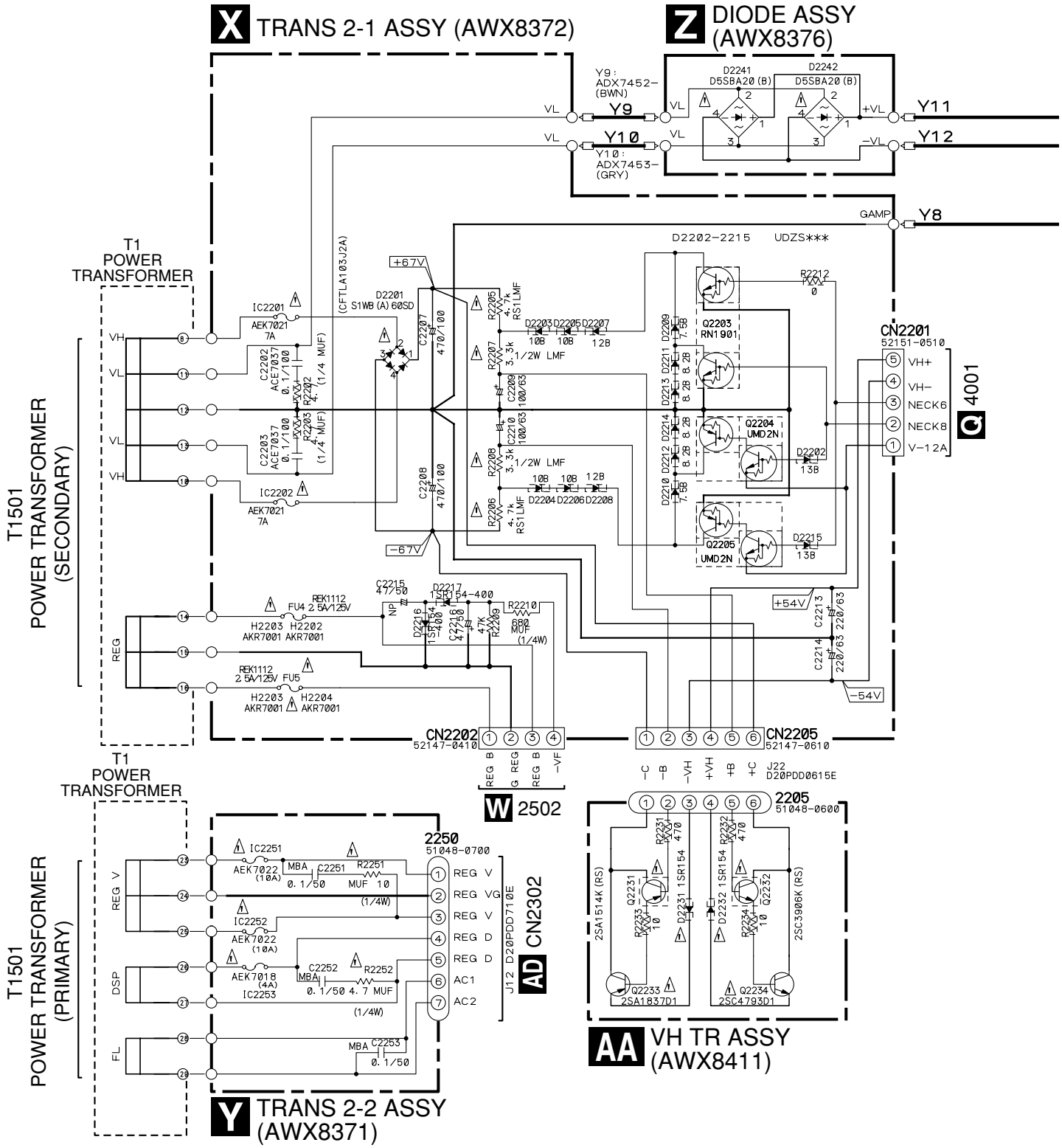
3.17 REGULATOR ASSY

W REGULATOR ASSY
(VSX-52TX : AWX8364)
(VSX-1014TX-K : AWX8367)




: AUDIO SIGNAL ROUTE (Lch)
(FL) : AUDIO SIGNAL ROUTE (FRONT Lch)
(LS) : AUDIO SIGNAL ROUTE (SURROUND Lch)
(SBL) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
(C) : AUDIO SIGNAL ROUTE (CENTER ch)
CN2515
AKP7064
(XKP3071)
L 3/3 CN115
CN2514
KM200TA17
L 3/3 CN114
CN2525
KM200TA04
L 3/3 CN113
CN2512
AKP7064
(XKP3071)
L 3/3 CN112
CN2522
AKP7064
(XKP3071)
M 2/2
CN951
CN2511
AKP7064
(XKP3071)
L 1/3 CN111
CN2521
AKP7062
(XKP3069)
M 1/2
CN701
V+5D
V+5_6V
V+5_6U
+5. 6V
-5. 6V
V-5_6V
-30V
GNDU
GNDD
GNDA
GNDCH
GAV
FOPT
MICOUT
FVR
FVL
FV
FVY
FVC
KN2502
VNF1084
C2553
C2554
D2511
D2512
D2527,
D2528, D2529,
D2532, D2533:
UDZS6. 2B
2506
VEF1040-
V+5A
V+2. 5A
GNDA (GNDA0)
GNDAD
IC2511
NJM2100M
(1/2)
(2/2)
• NOTE FOR FUSE REPLACEMENT
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS OF FUSE.

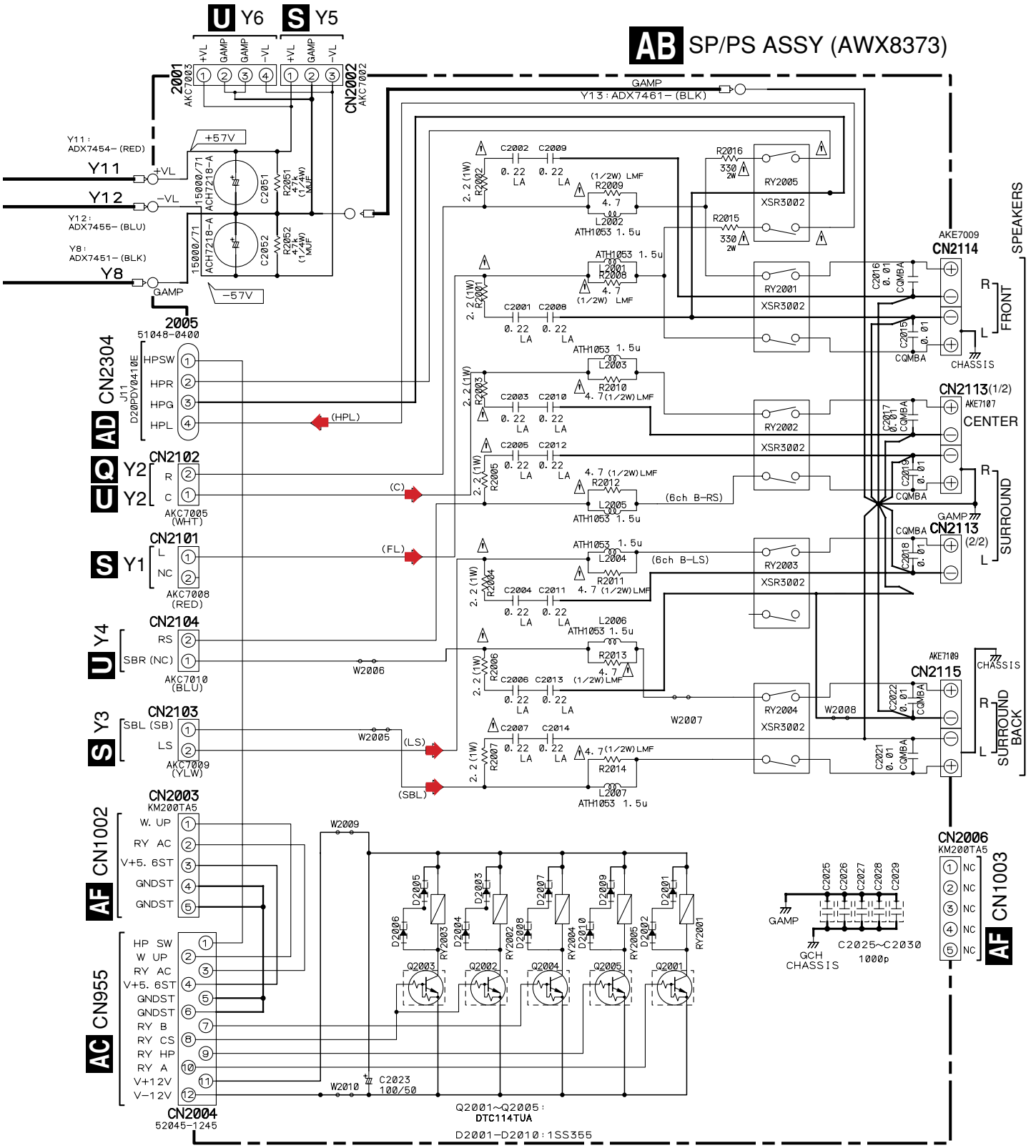
3.18 TRANS 2-1, TRANS 2-2, DIODE, VH TR and SP/PS ASSYS



- NOTE FOR FUSE REPLACEMENT

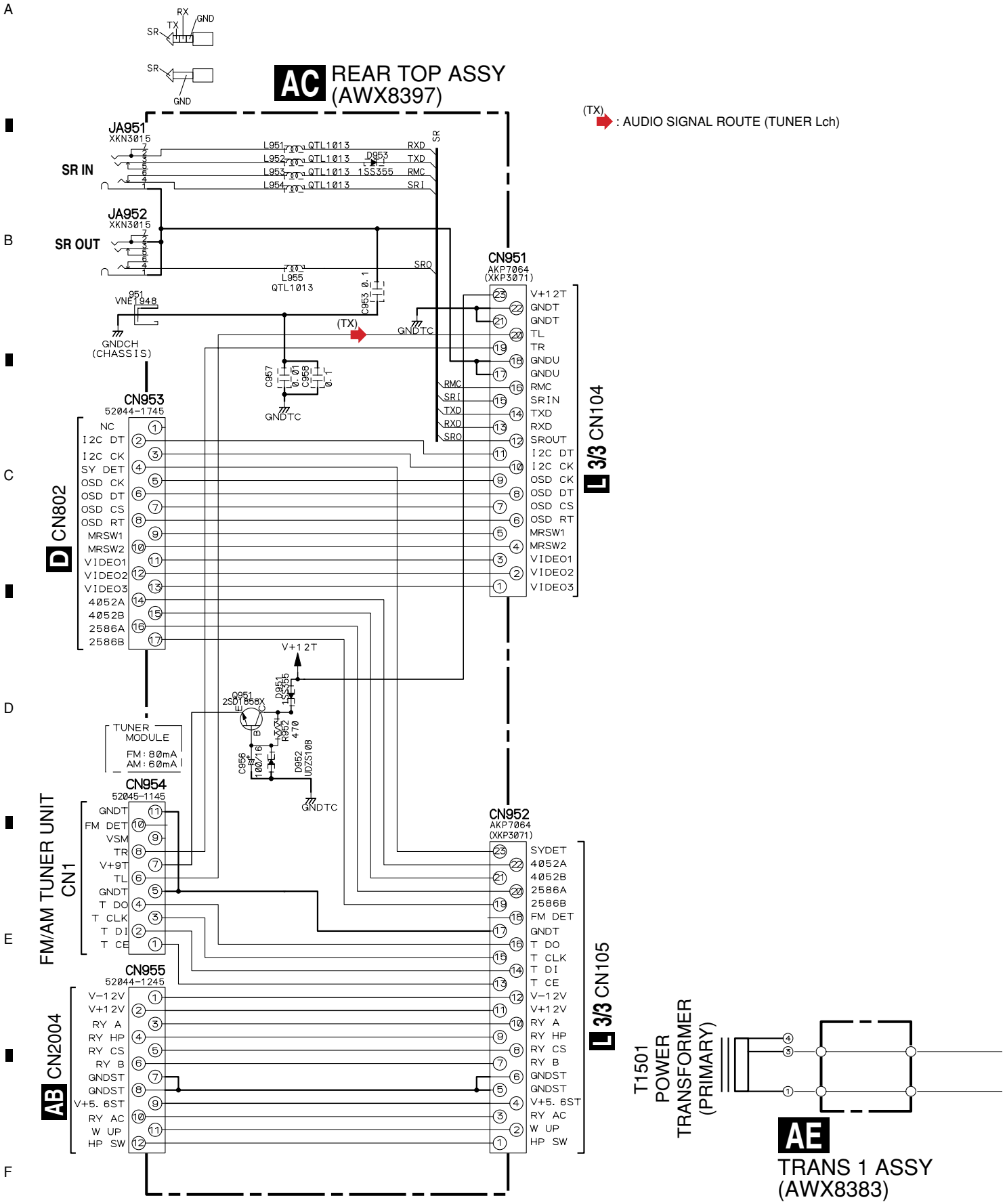
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS OF FUSE.

X Y Z AA



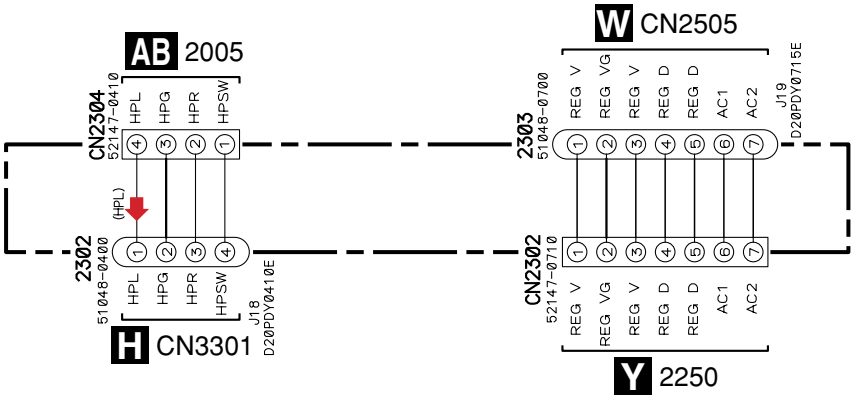
(FL) : AUDIO SIGNAL ROUTE (FRONT Lch)
(LS) : AUDIO SIGNAL ROUTE (SURROUND Lch)
(SBL) : AUDIO SIGNAL ROUTE (SURROUND BACK Lch)
(C) : AUDIO SIGNAL ROUTE (CENTER ch)
(HPL) : AUDIO SIGNAL ROUTE (PHONES Lch)

3.19 REAR TOP, TRANS SIDE, TRANS 1 and PRIMARY ASSYS



AD TRANS SIDE ASSY (AWX8417)

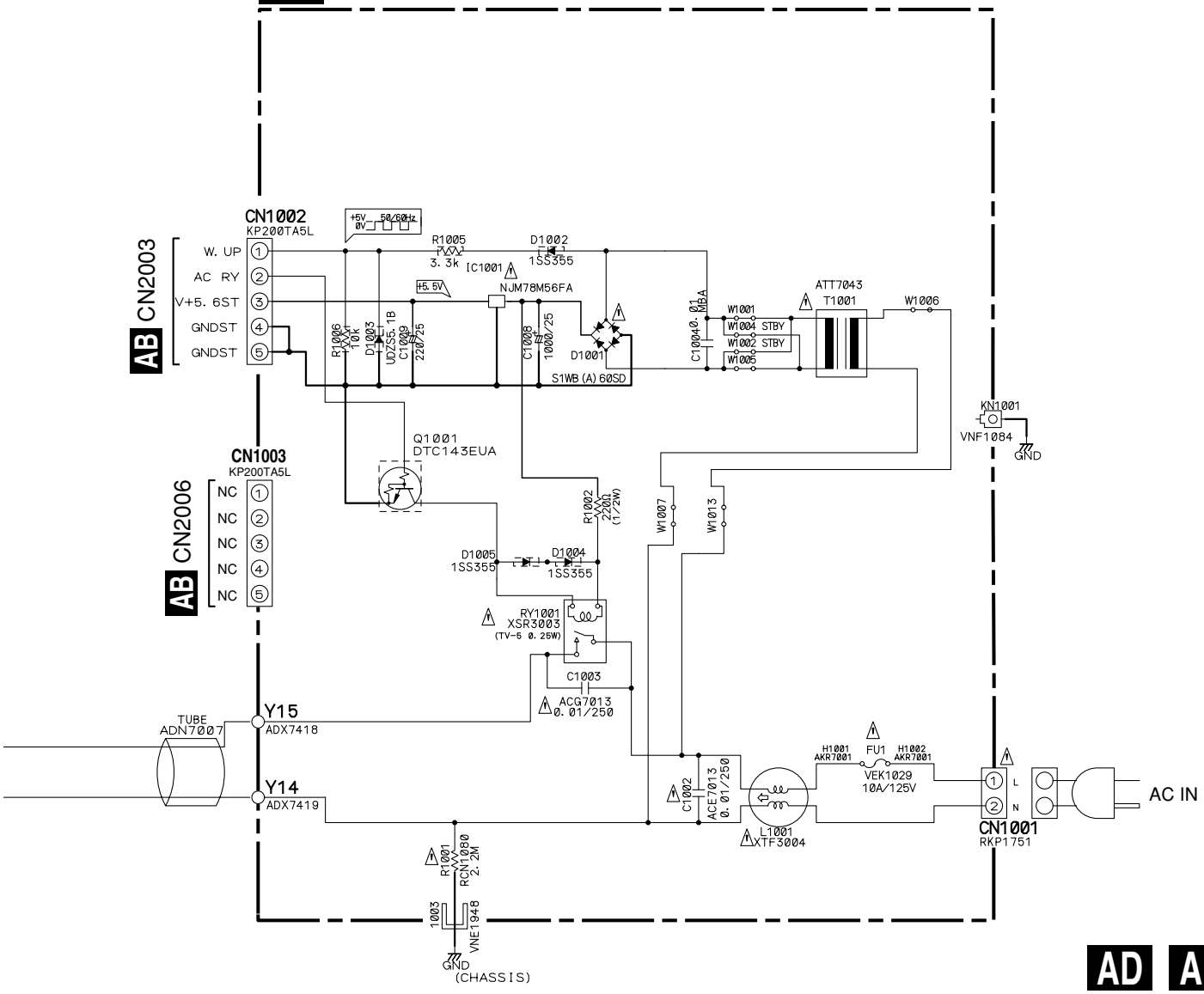
(HPL) : AUDIO SIGNAL ROUTE (PHONES Lch)



• NOTE FOR FUSE REPLACEMENT

CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS OF FUSE.

AF PRIMARY ASSY (AWX8384)



AD AF

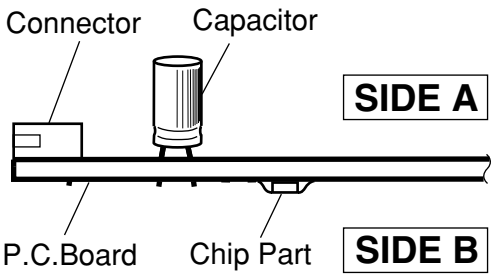
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

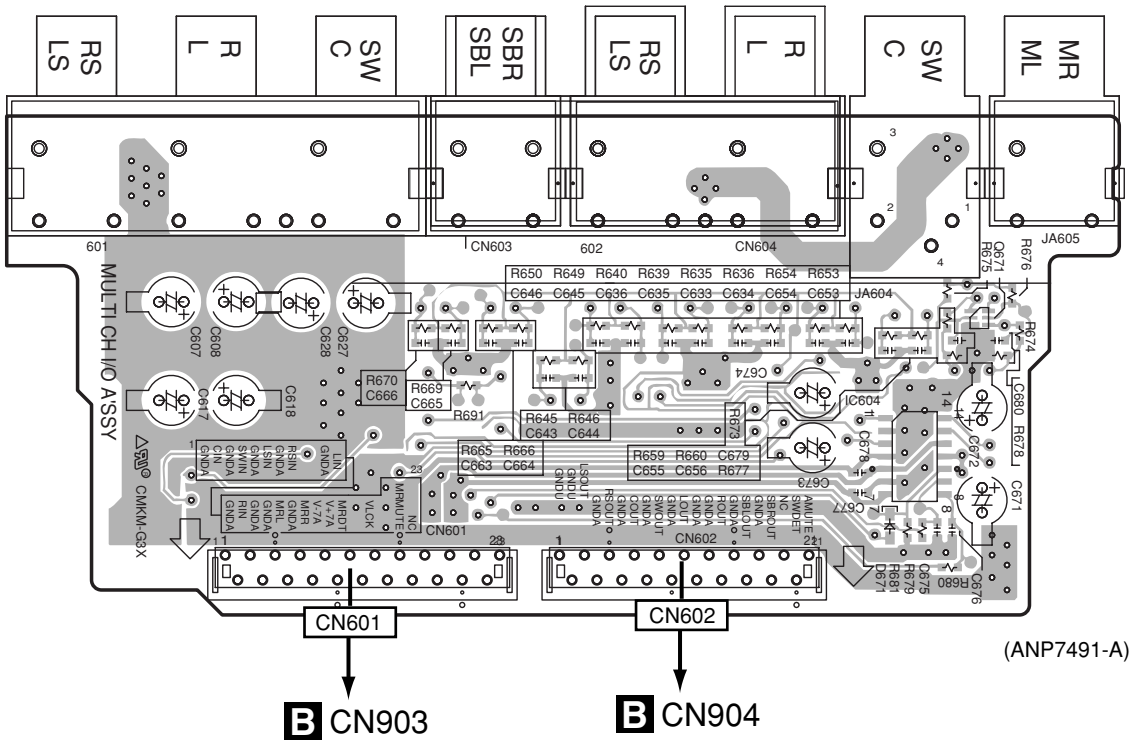


4.1 MULTI CH I/O ASSY

SIDE A

SIDE A

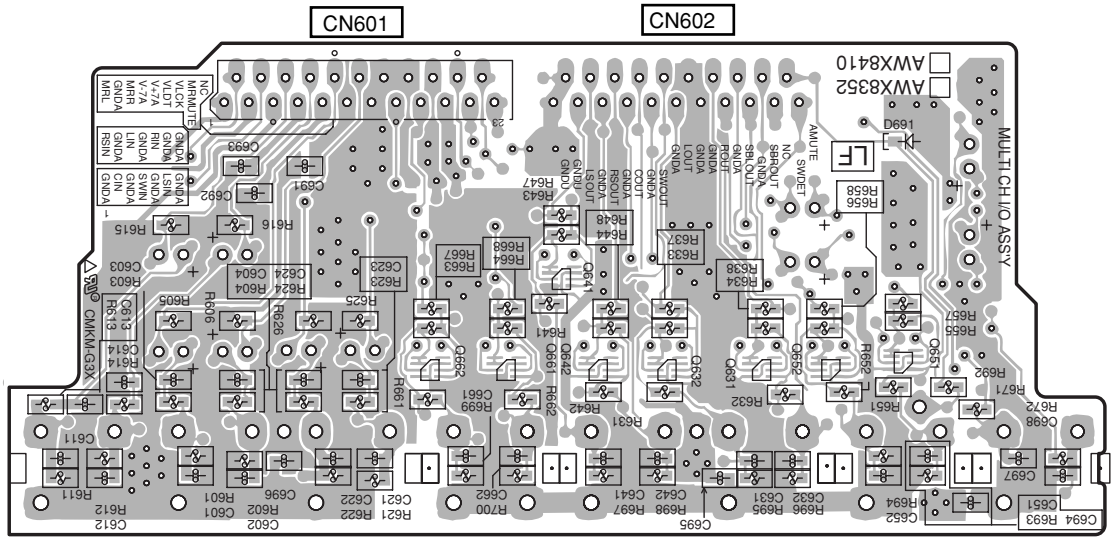
A MULTI CH I/O ASSY



SIDE B

A MULTI CH I/O ASSY

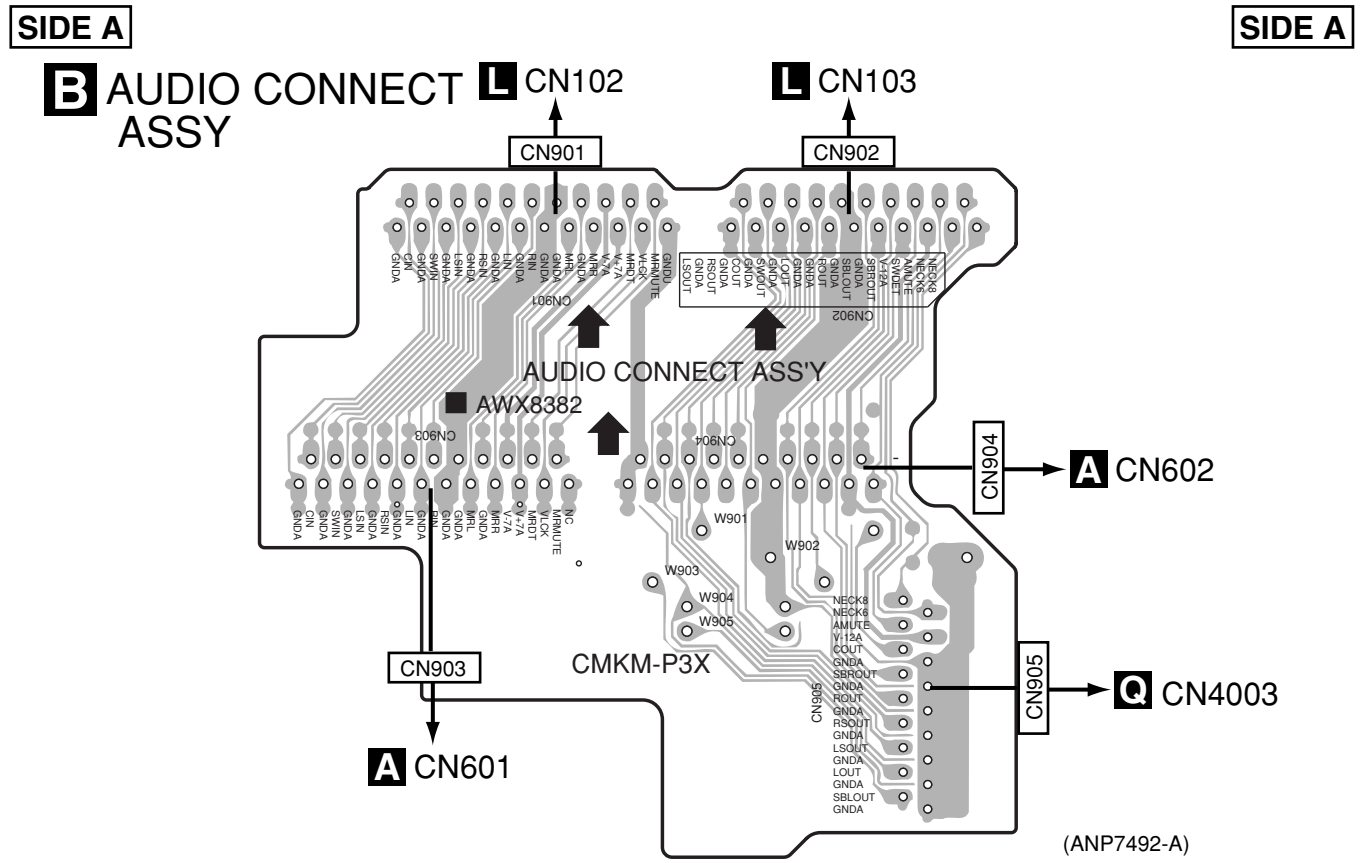
SIDE B



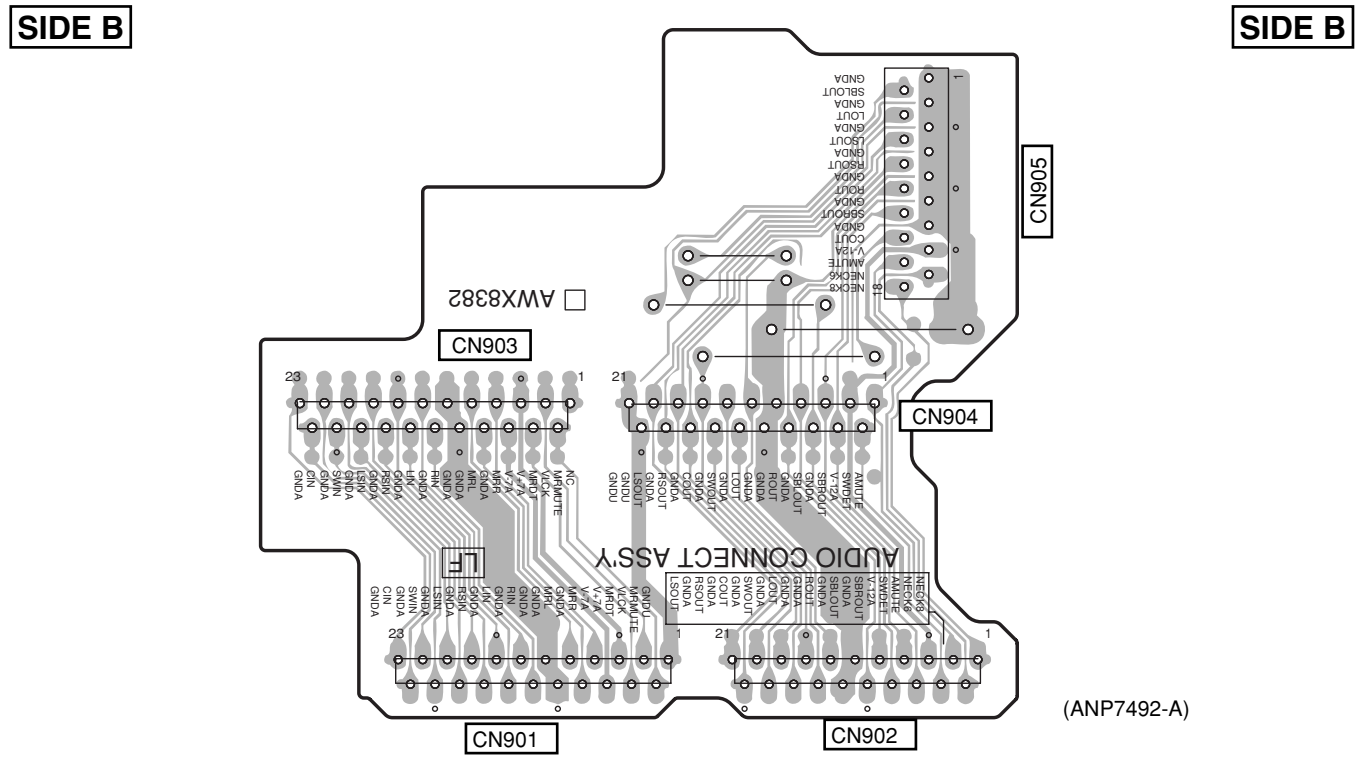
Q662 Q661 Q632 Q631 Q651
Q641 Q642 Q652

A **A**

4.2 AUDIO CONNECT ASSY



B AUDIO CONNECT ASSY

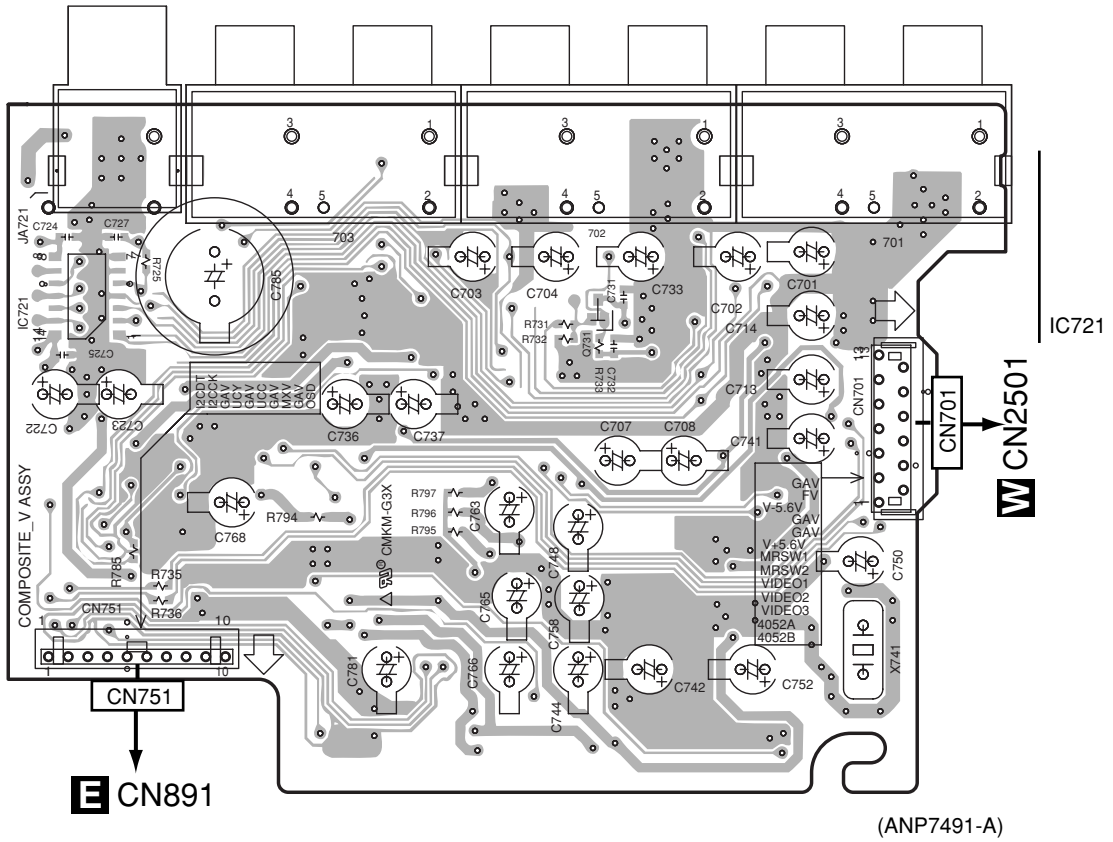


4.3 COMPOSITE V ASSY

SIDE A

SIDE A

C COMPOSITE V ASSY

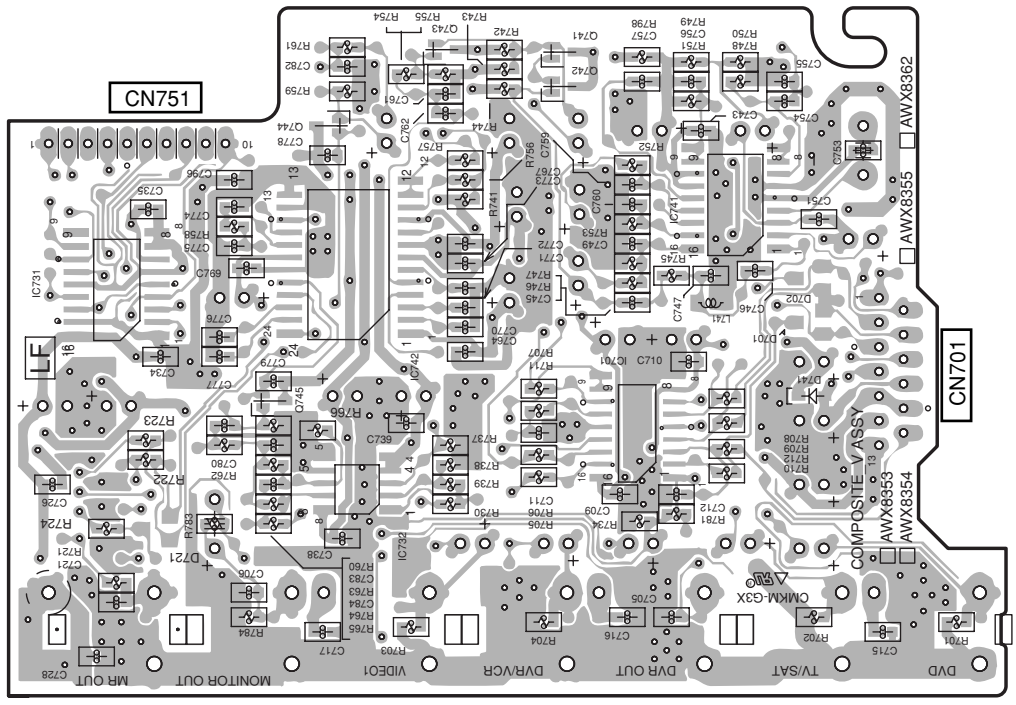


(ANP7491-A)

SIDE B

C COMPOSITE V ASSY

SIDE B



(ANP7491-A)

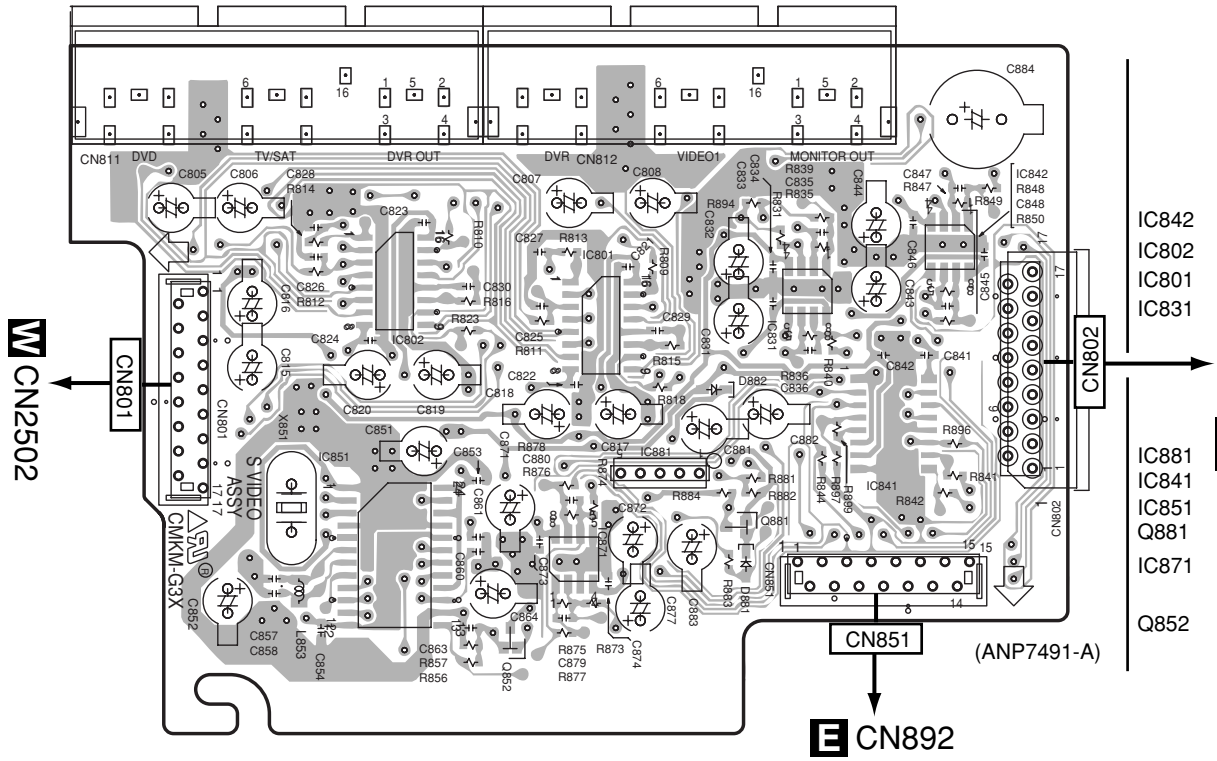
IC731 IC742 IC732 Q743 Q741 IC701 IC741
Q745 Q742

4.4 S VIDEO ASSY

SIDE A

SIDE A

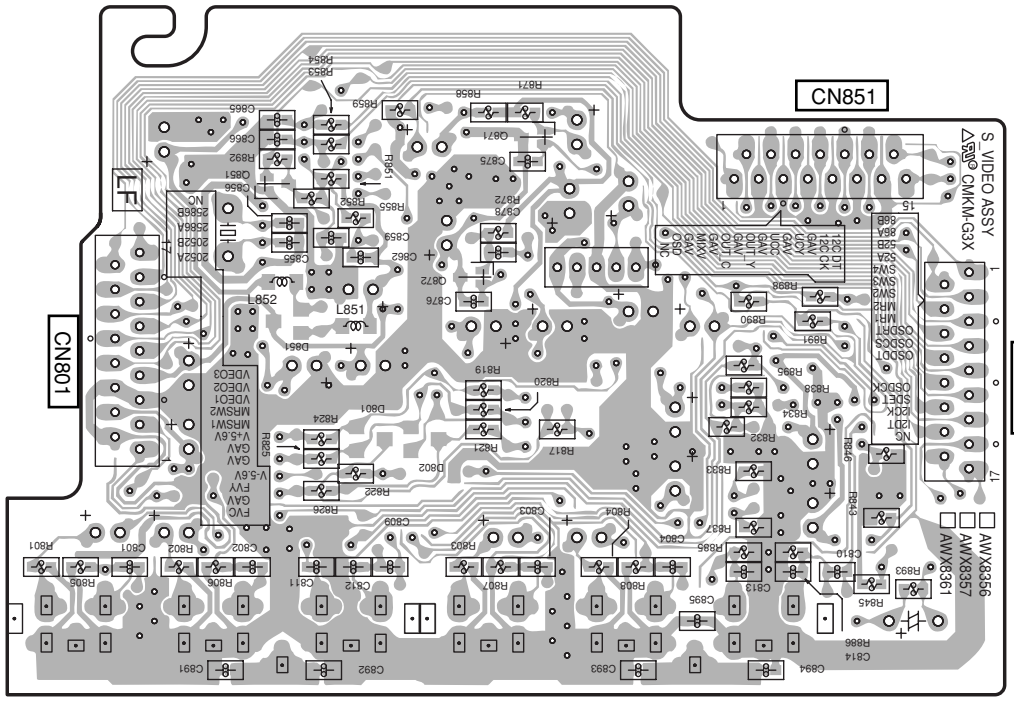
D S VIDEO ASSY



D S VIDEO ASSY

SIDE B

SIDE B



D

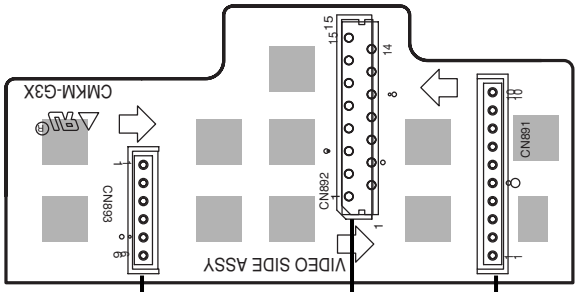
D

4.5 VIDEO SIDE and OPTICAL-IN ASSYS

SIDE A

SIDE A

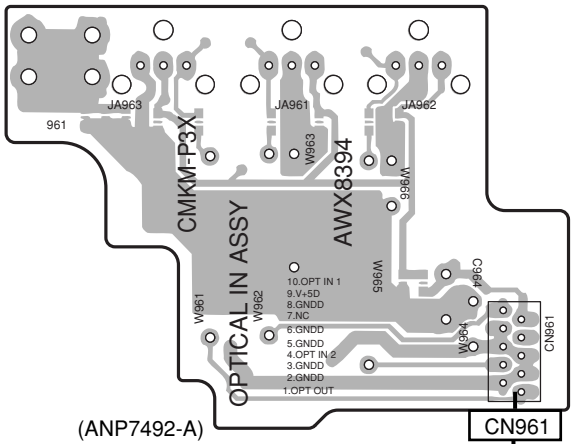
E VIDEO SIDE ASSY



(ANP7491-A)

CN893 → F CN5051
CN892 → D CN851
CN891 → C CN751

G OPTICAL-IN ASSY

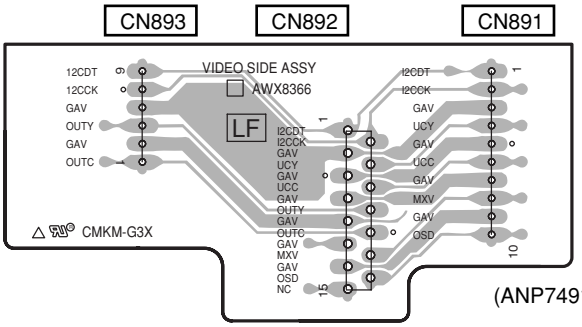


(ANP7492-A)

CN961 → M CN601

SIDE B

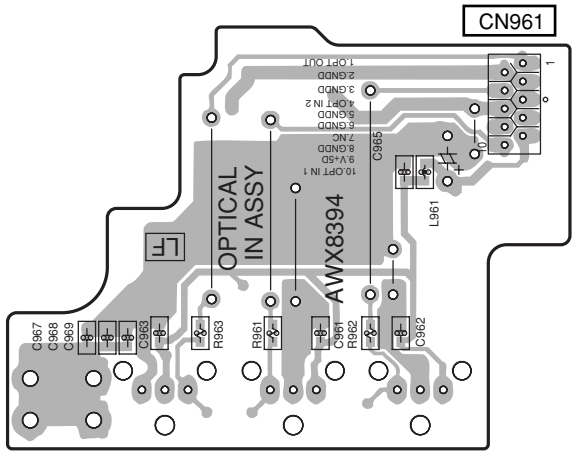
E VIDEO SIDE ASSY



(ANP7491-A)

G OPTICAL-IN ASSY

SIDE B

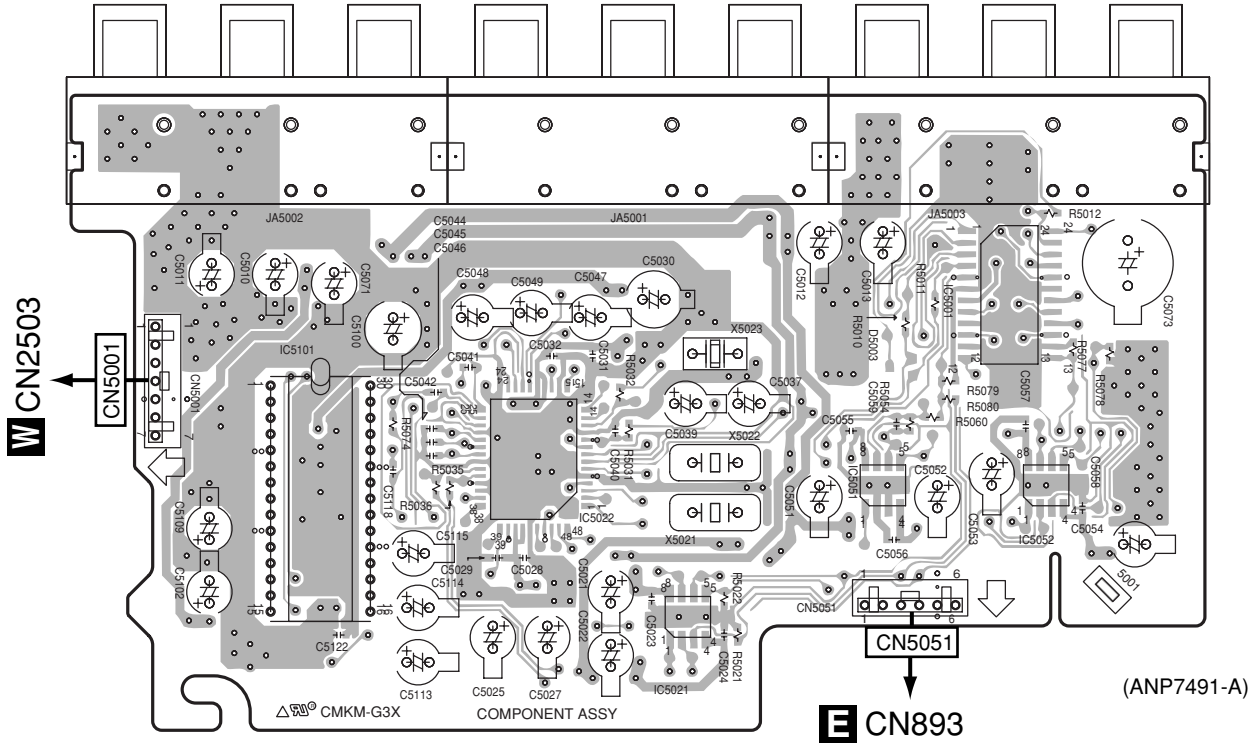


(ANP7492-A)

4.6 COMPONENT ASSY

SIDE A **SIDE A**

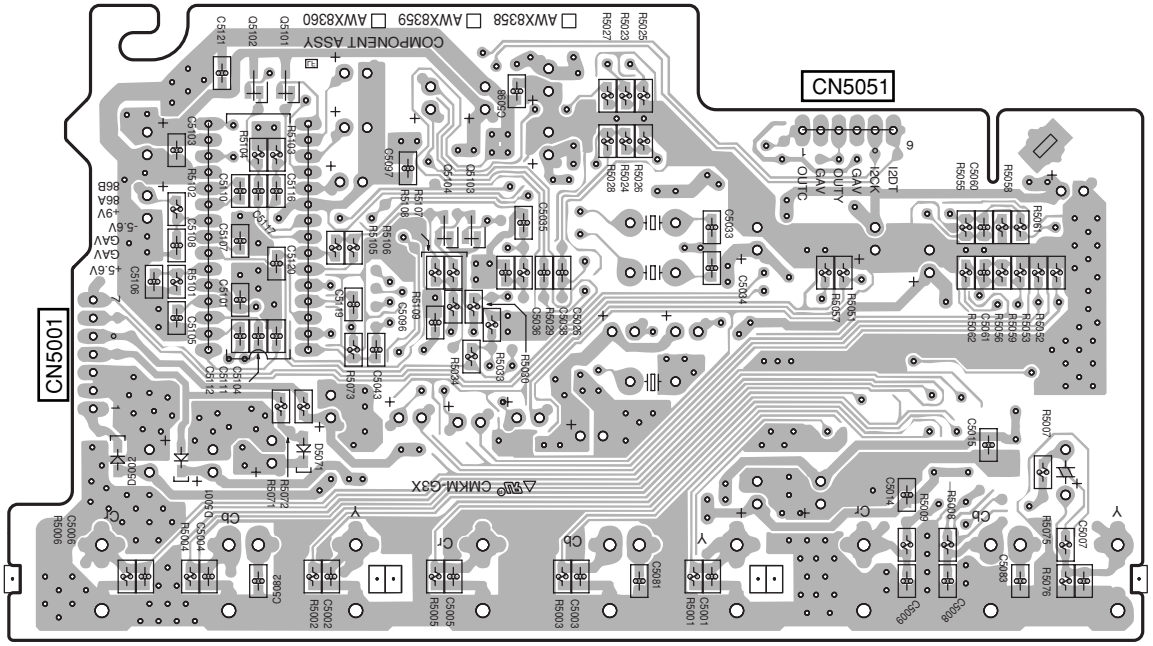
F COMPONENT ASSY



IC5101 IC5022 IC5021 IC5051 IC5001 IC5052

SIDE B **SIDE B**

F COMPONENT ASSY



Q5102 Q5101 Q5104 Q5103

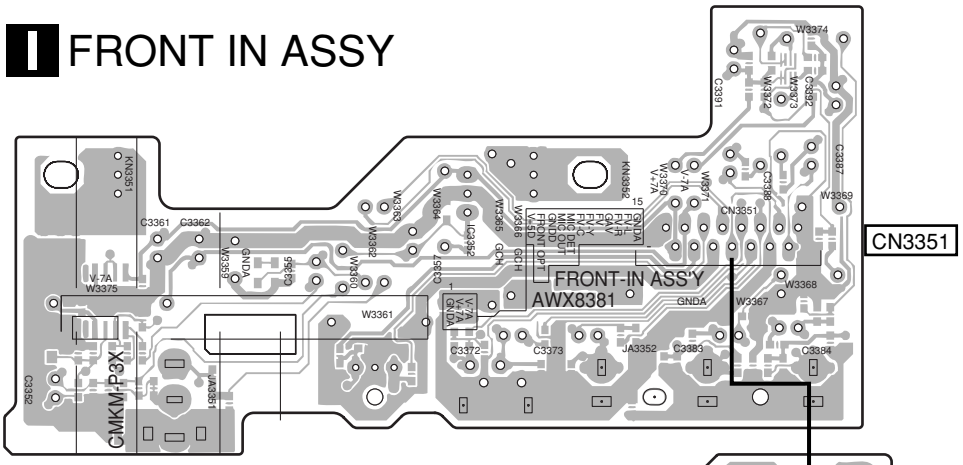
F **F**

4.7 FRONT IN and FRONT-IN CONNECT ASSYS

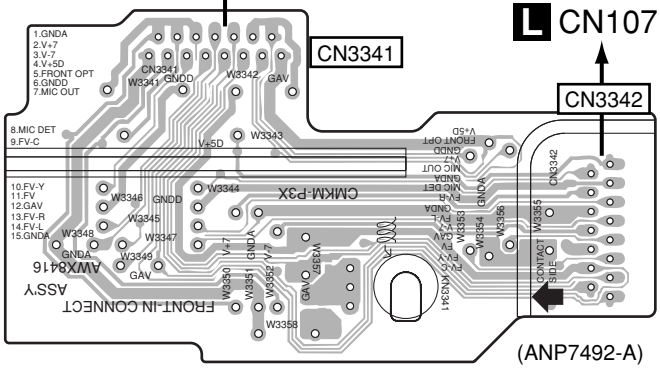
SIDE A

SIDE A

I FRONT IN ASSY

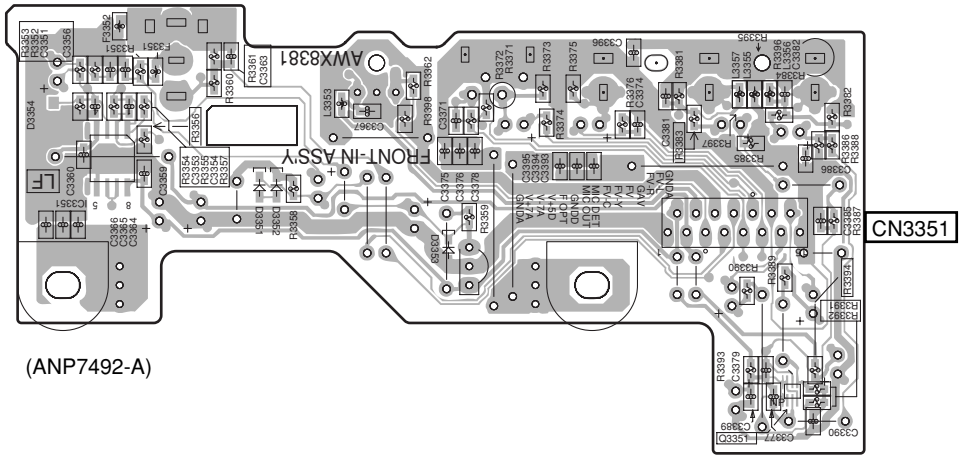


J FRONT-IN CONNECT ASSY

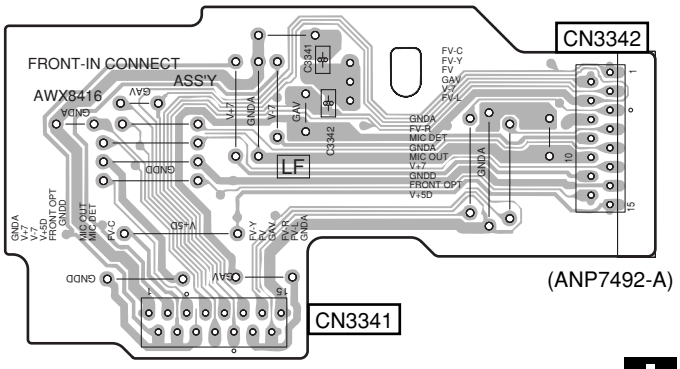


SIDE B **I** FRONT IN ASSY

SIDE B



J FRONT-IN CONNECT ASSY

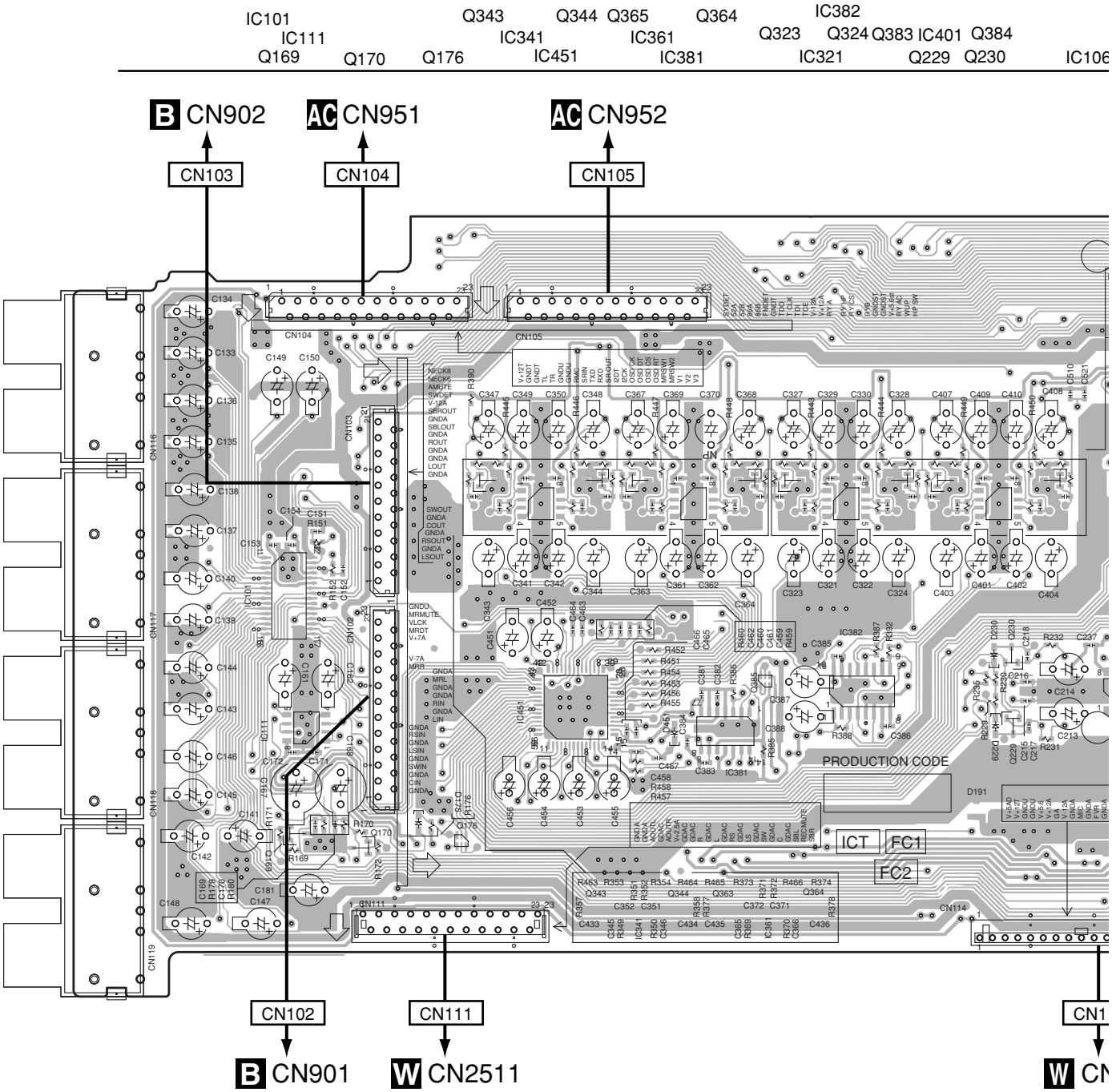


I **J** **I** **J**

4.8 MAIN CONTROL ASSY

SIDE A

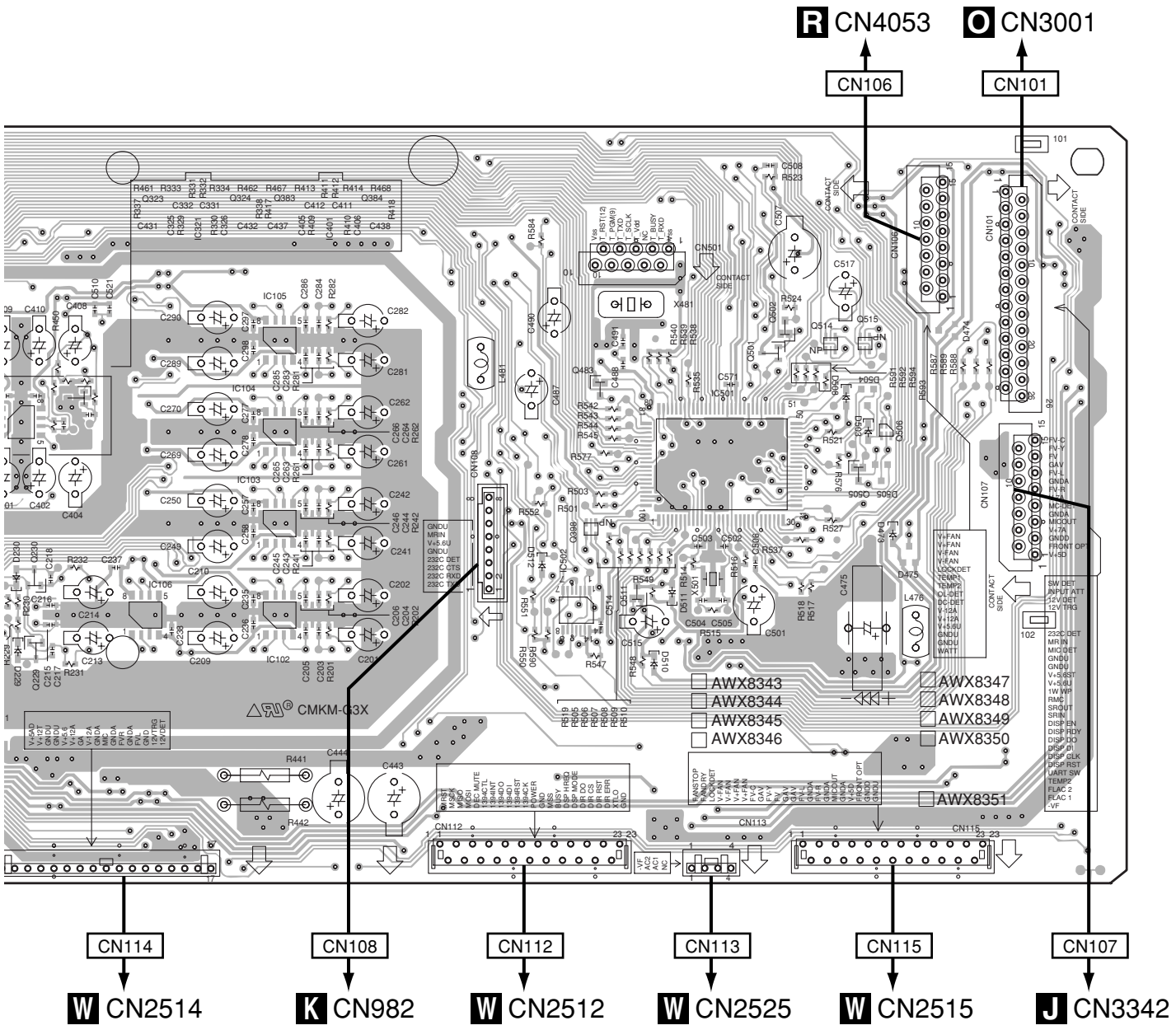
L MAIN CONTROL ASSY



SIDE A

A

IC384 IC103 IC105 Q514 Q515
IC230 IC106 IC102 IC104 IC502 Q399 Q483 IC501 Q501 Q502 Q505



(ANP7491-A)

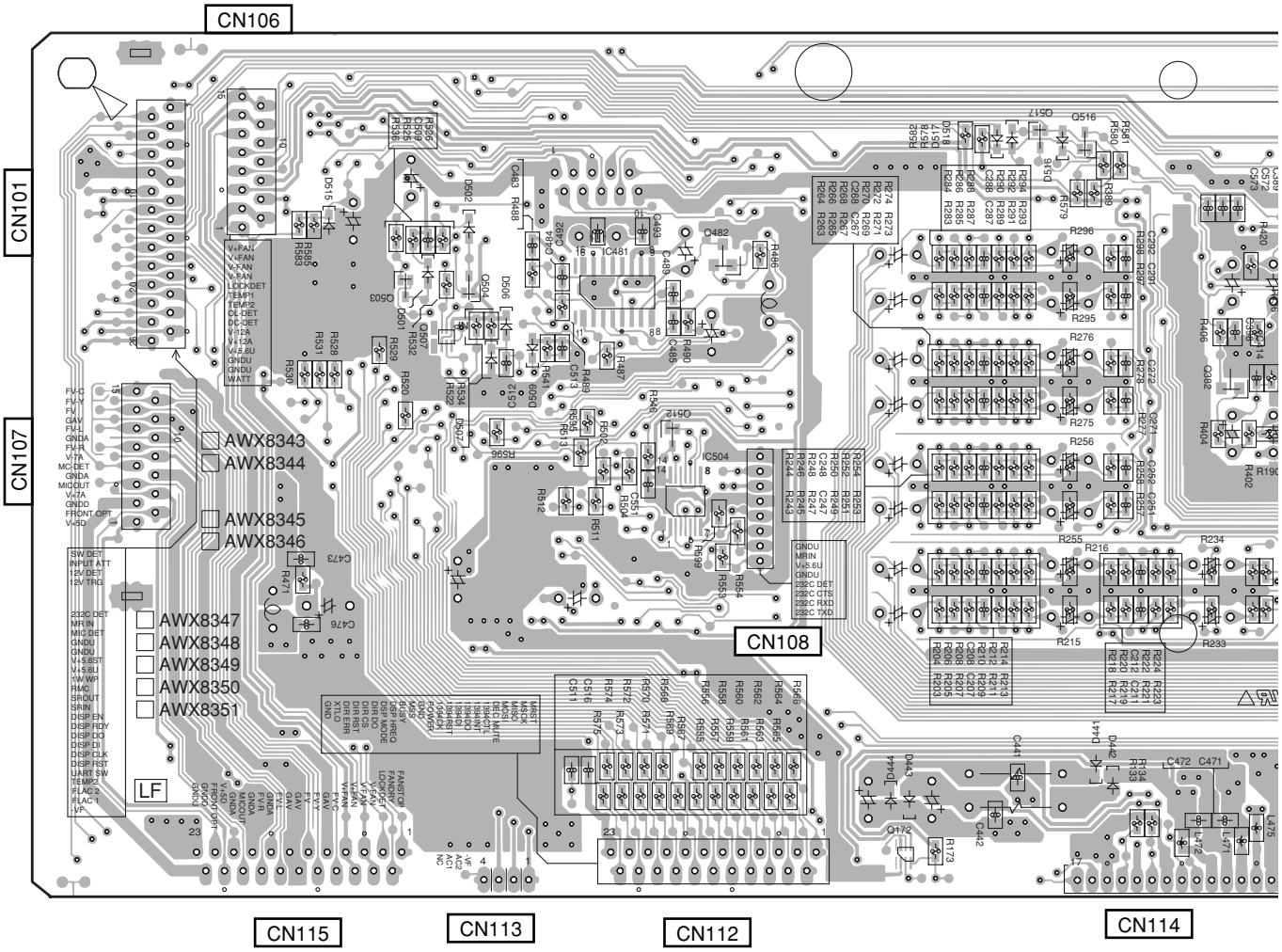
B C D E F

L

SIDE B

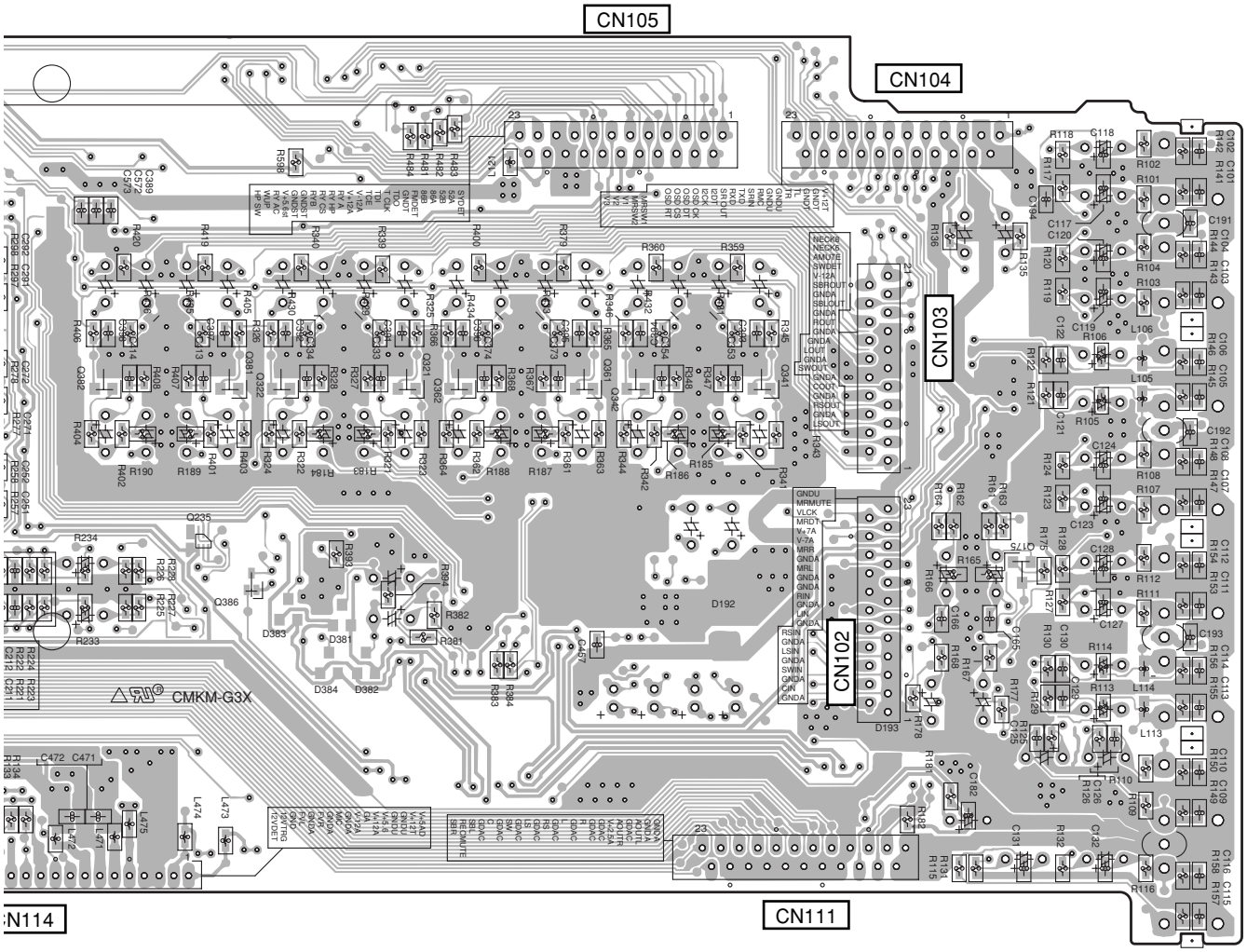
Q507 Q503 Q504 IC481 Q512 Q482 IC504 Q172 Q517 Q516 Q382

L MAIN CONTROL ASSY



SIDE B

Q381 Q322
Q382 Q235 Q386 Q321 Q362 Q361 Q342 Q341 Q175

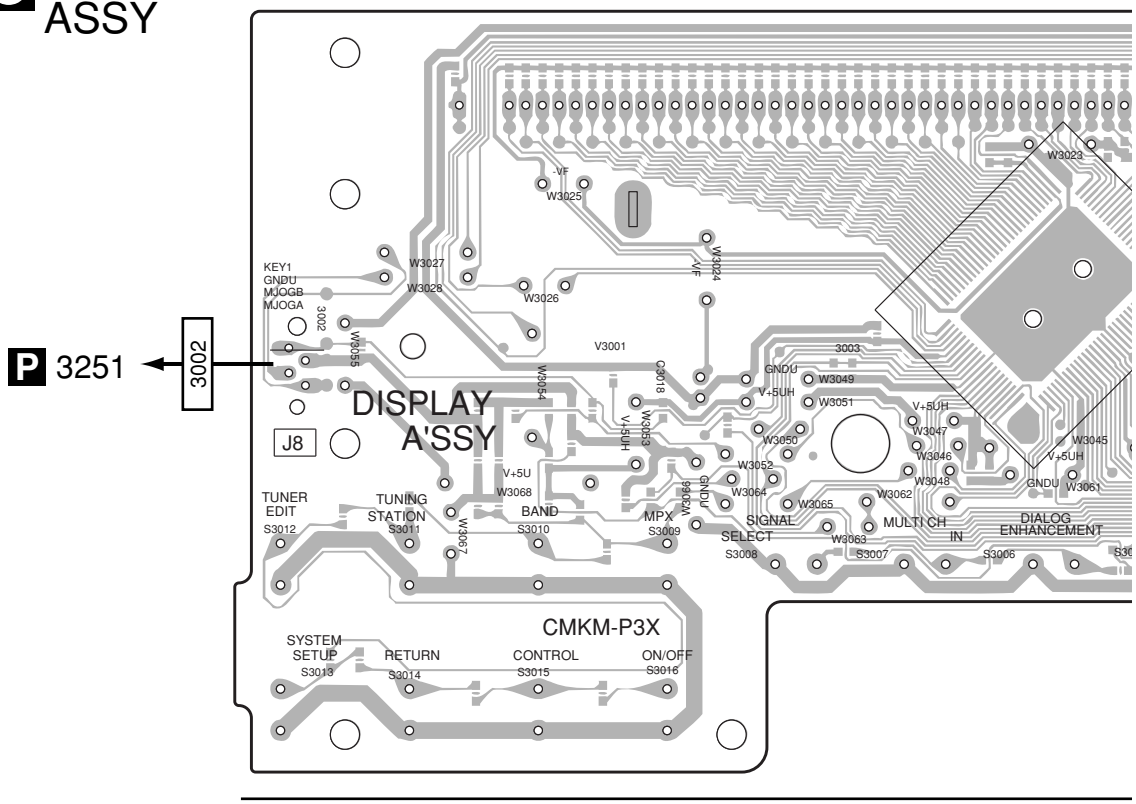


(ANP7491-A)

4.9 DISPLAY ASSY

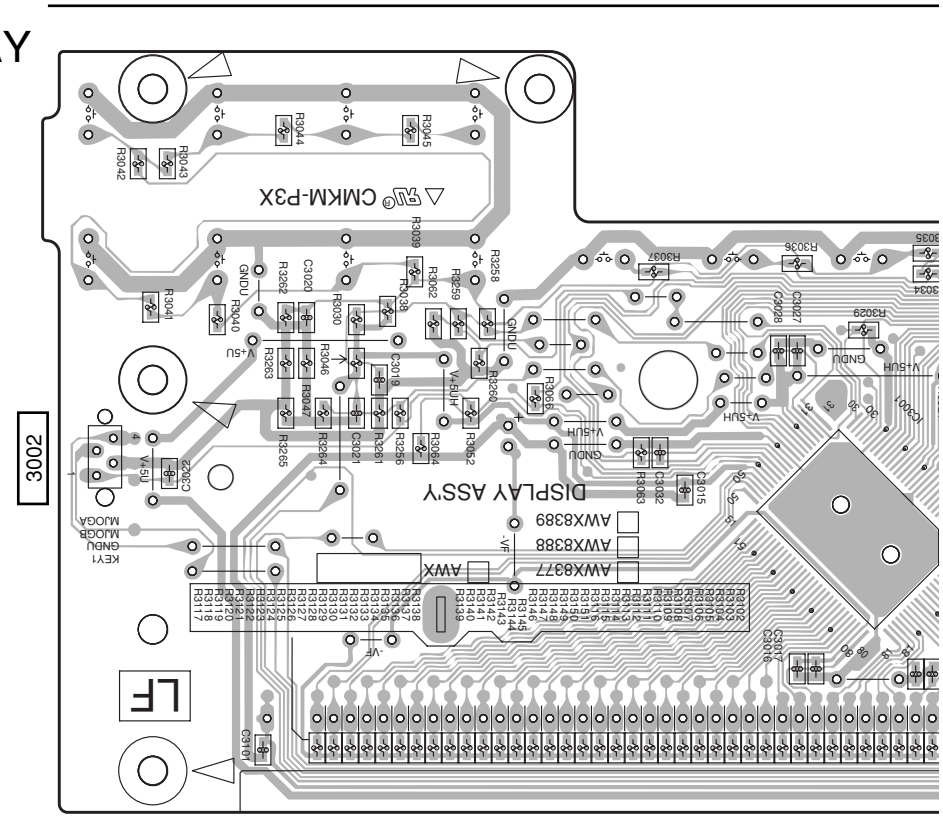
SIDE A

O DISPLAY ASSY



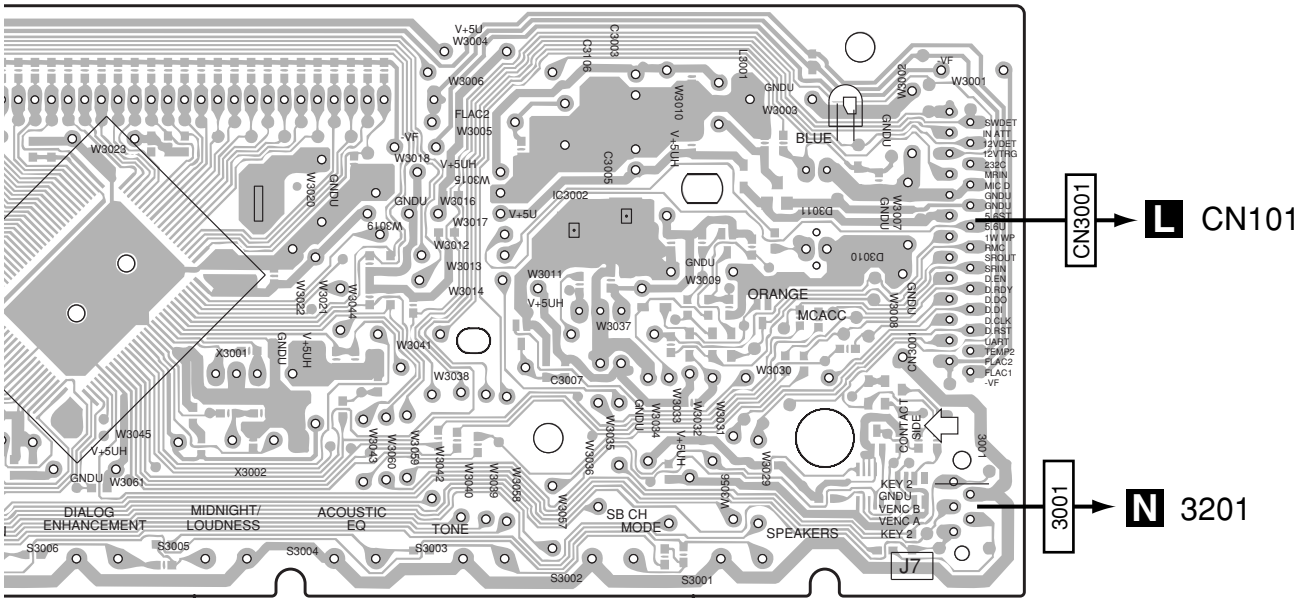
SIDE B

O DISPLAY ASSY



O

SIDE A

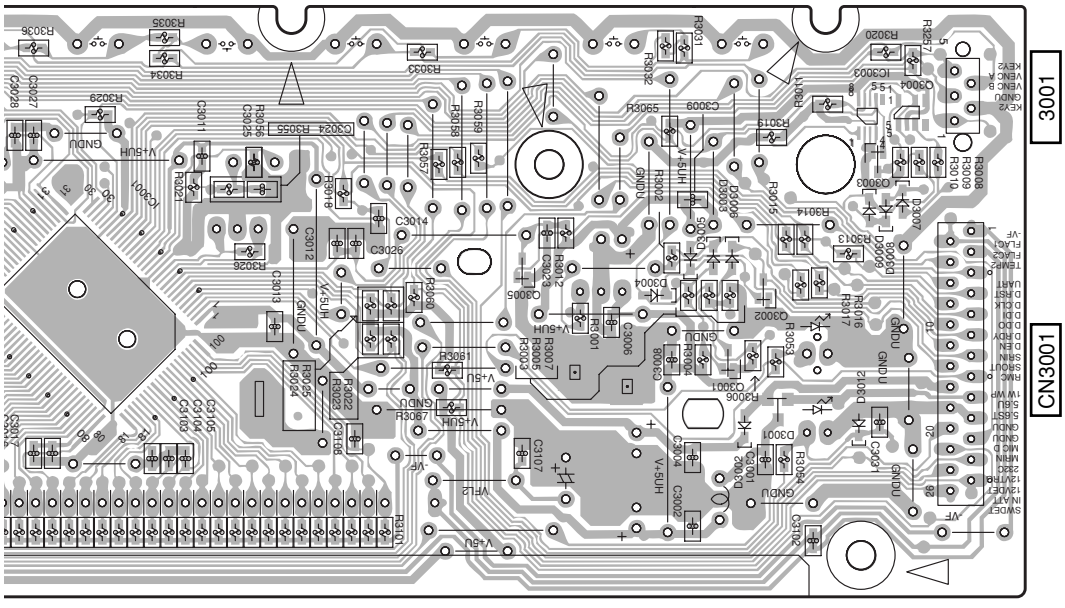


(ANP7492-A)

IC3002

IC3001 Q3005 Q3001 Q3002 IC3003 Q3003 Q3004

SIDE B



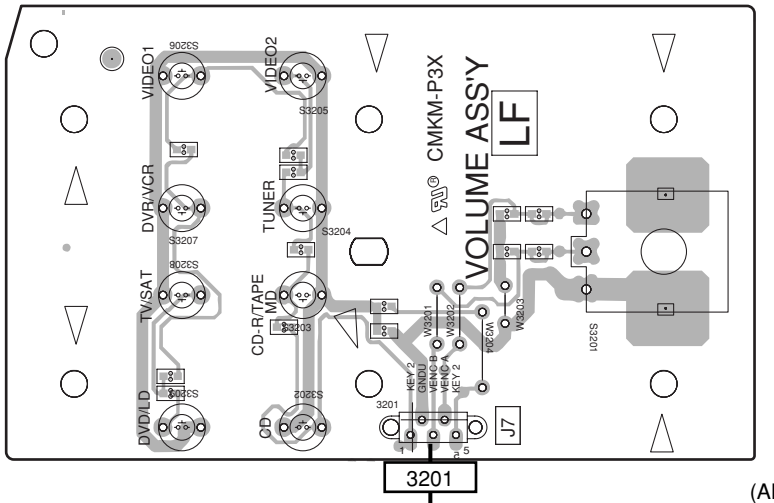
(ANP7492-A)

4.10 HEADPHONE, VOLUME and MULTI JOG ASSYS

SIDE A

SIDE A

N VOLUME ASSY

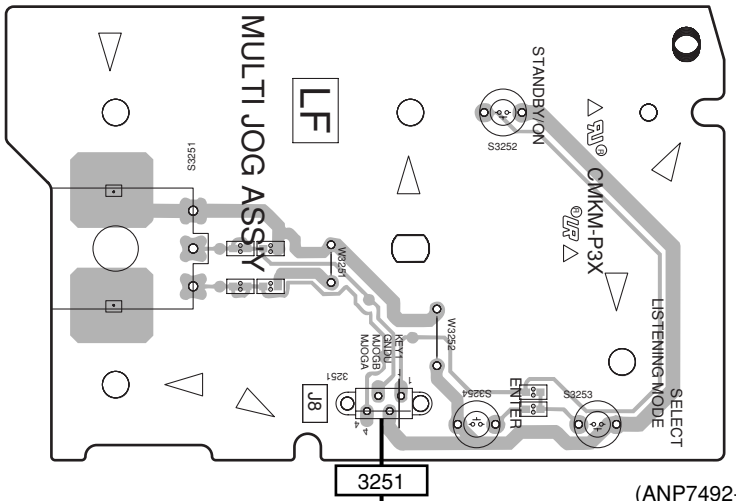


3201

(ANP7492-A)

O 3001

P MULTI JOG ASSY

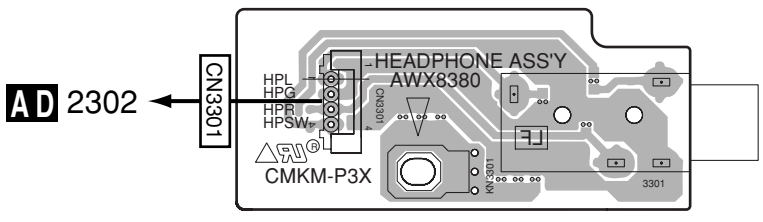


3251

(ANP7492-A)

O 3002

H HEADPHONE ASSY



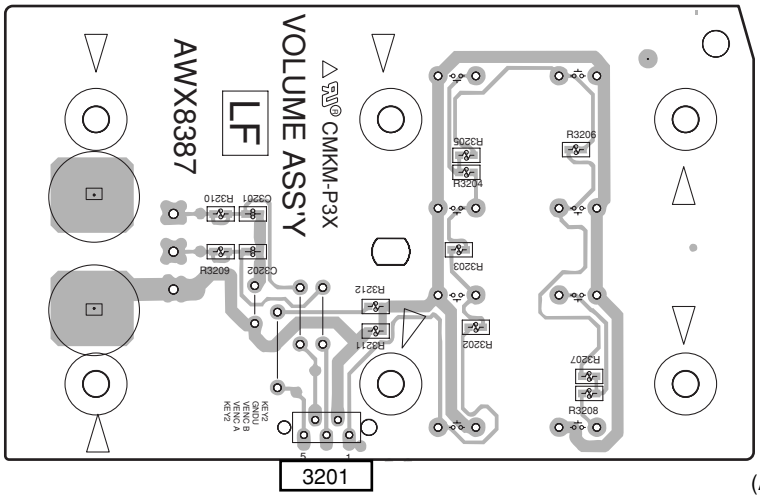
AD 2302

(ANP7492-A)

SIDE B

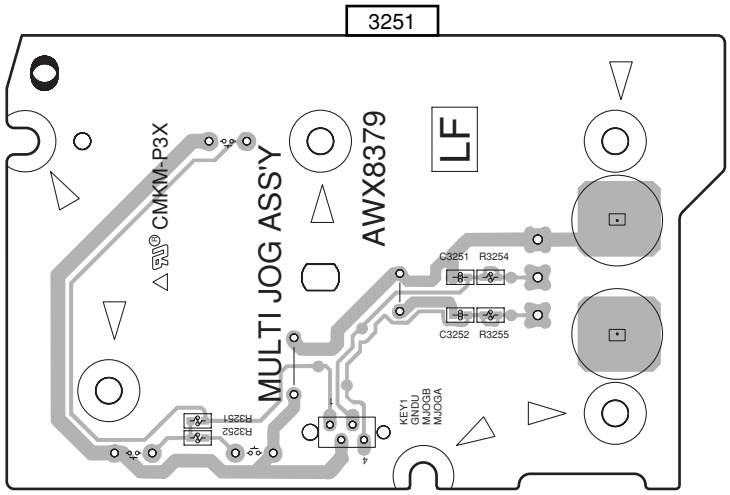
SIDE B

N VOLUME ASSY



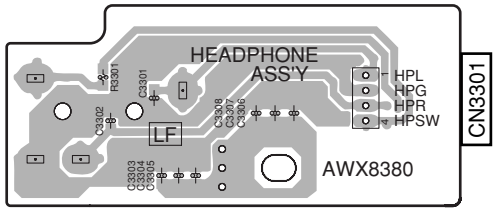
(ANP7492-A)

P MULTI JOG ASSY



(ANP7492-A)

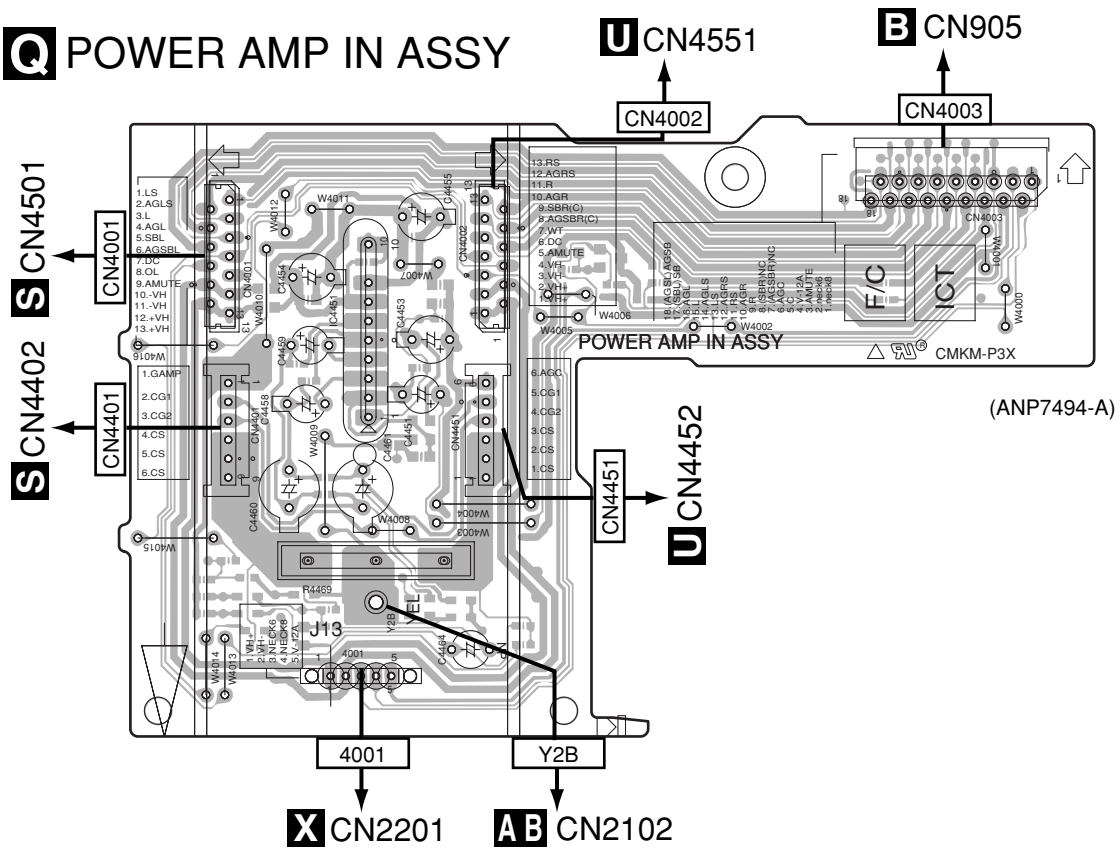
N HEADPHONE ASSY



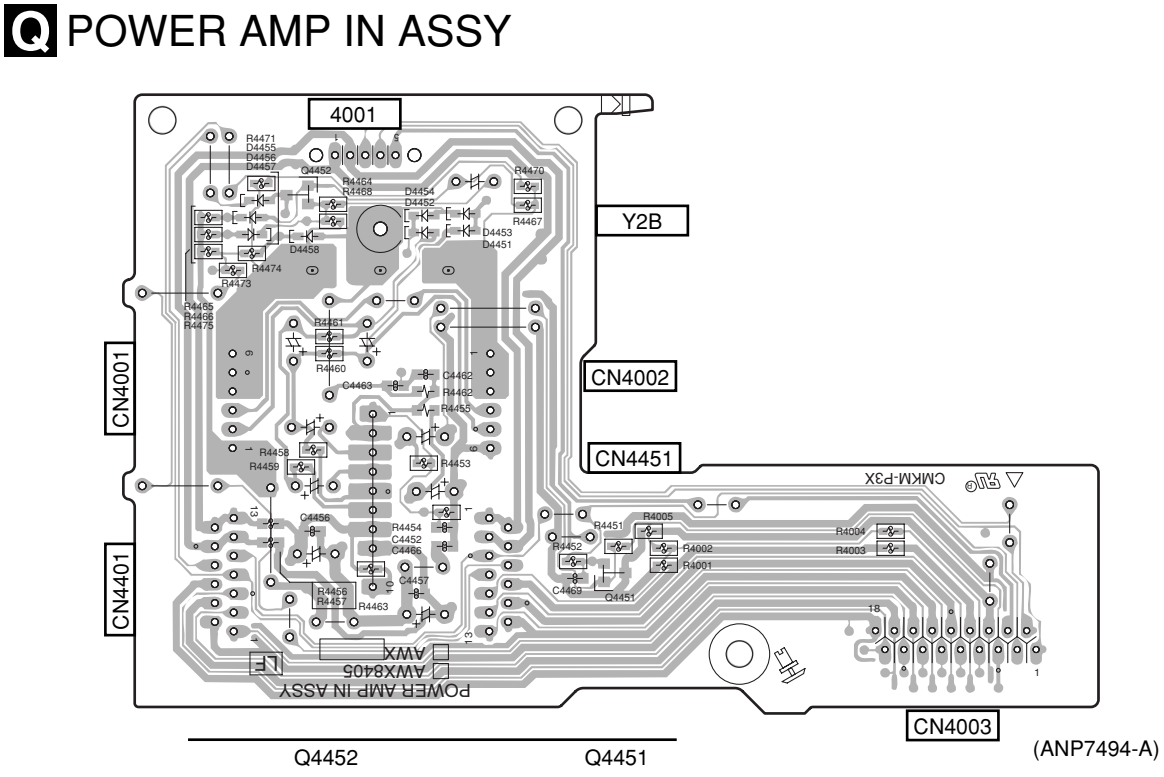
(ANP7492-A)

4.11 POWER AMP IN ASSY

SIDE A



SIDE B

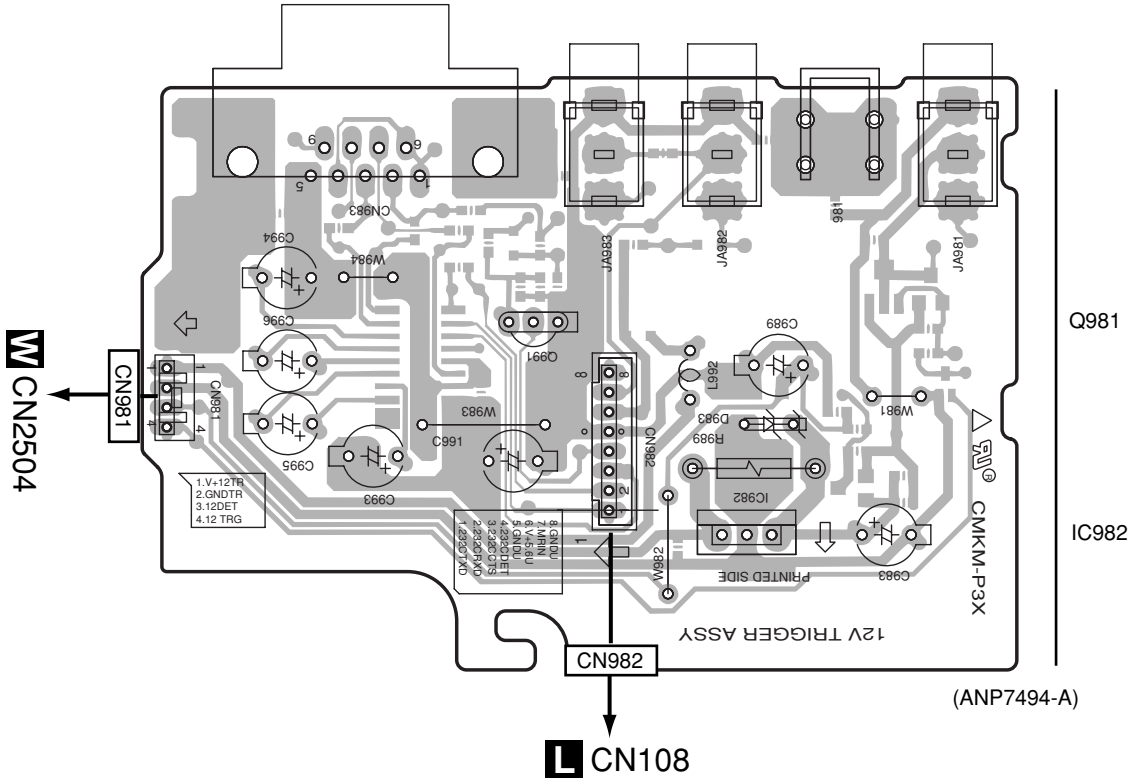


4.12 12V TRIGGER ASSY

SIDE A **SIDE A**

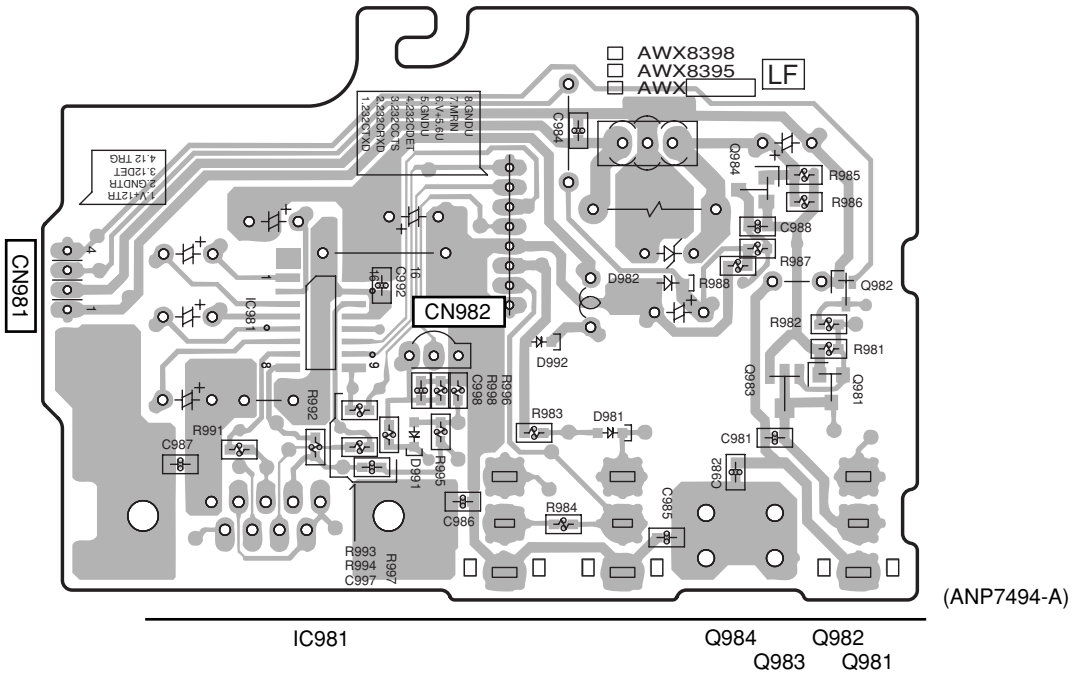
• For VSX-52TX Only

K 12V TRIGGER ASSY



SIDE B **SIDE B**

K 12V TRIGGER ASSY



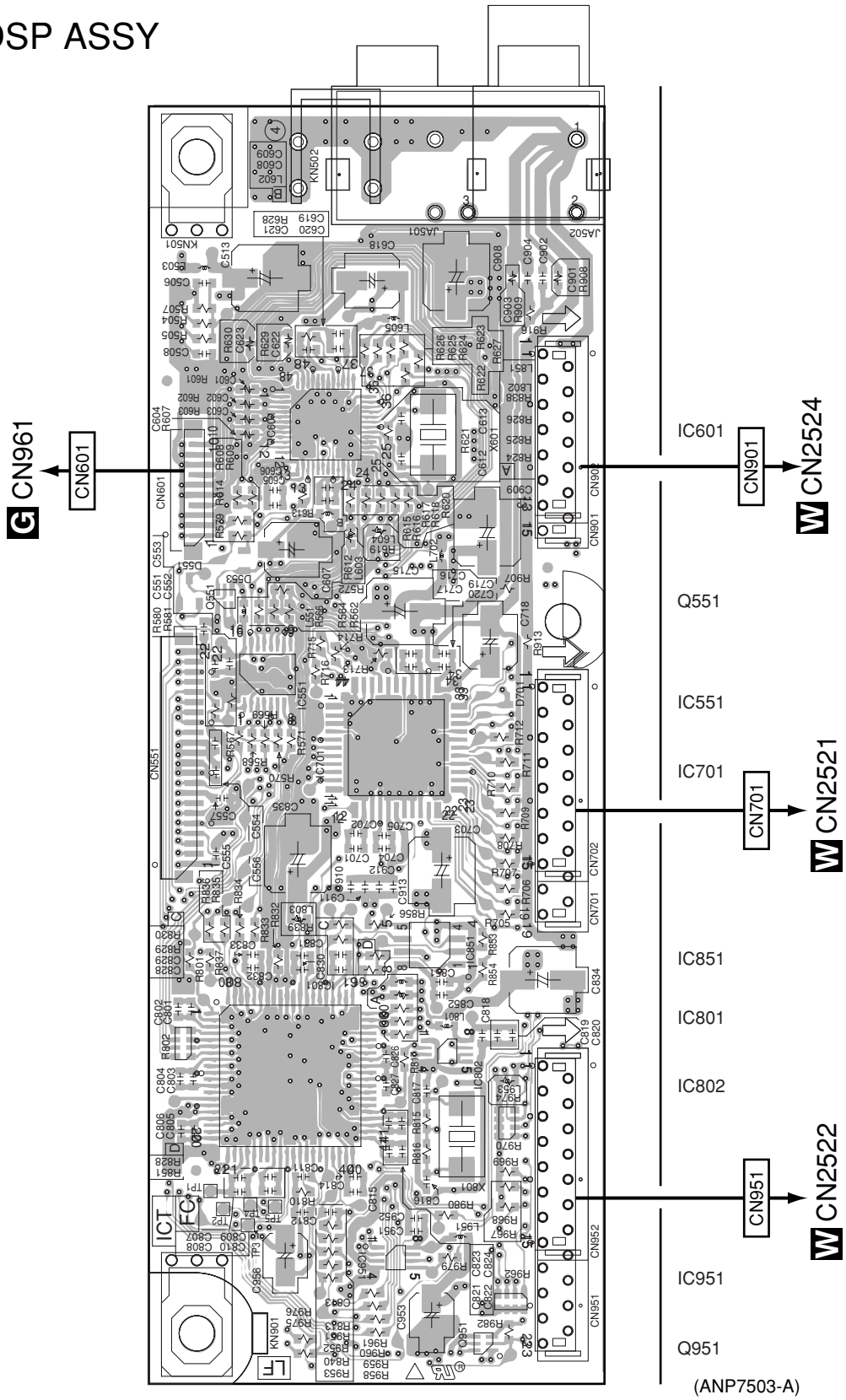
4.13 DSP ASSY

SIDE A

SIDE A

- This diagram has four layers.
  In the two middle layers, mainy Vcc and GND are connected.

M DSP ASSY

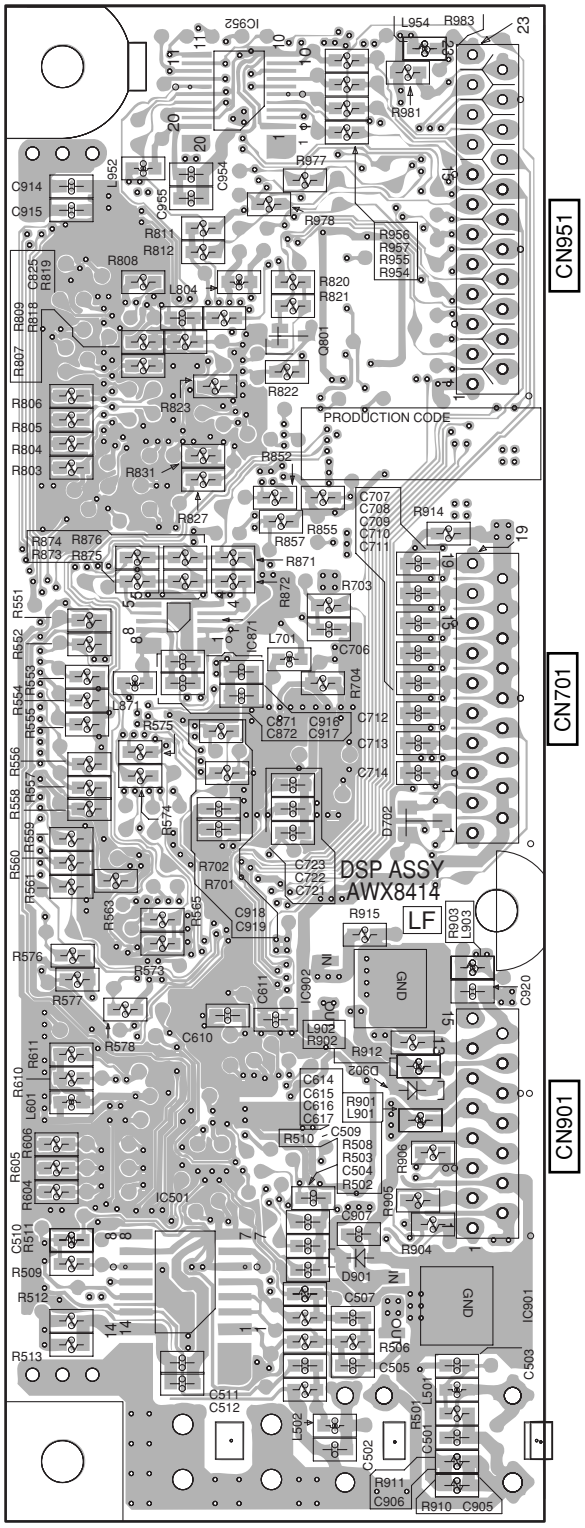


SIDE B

SIDE B

- This diagram has four layers.
  In the two middle layers, mainy Vcc and GND are connected.

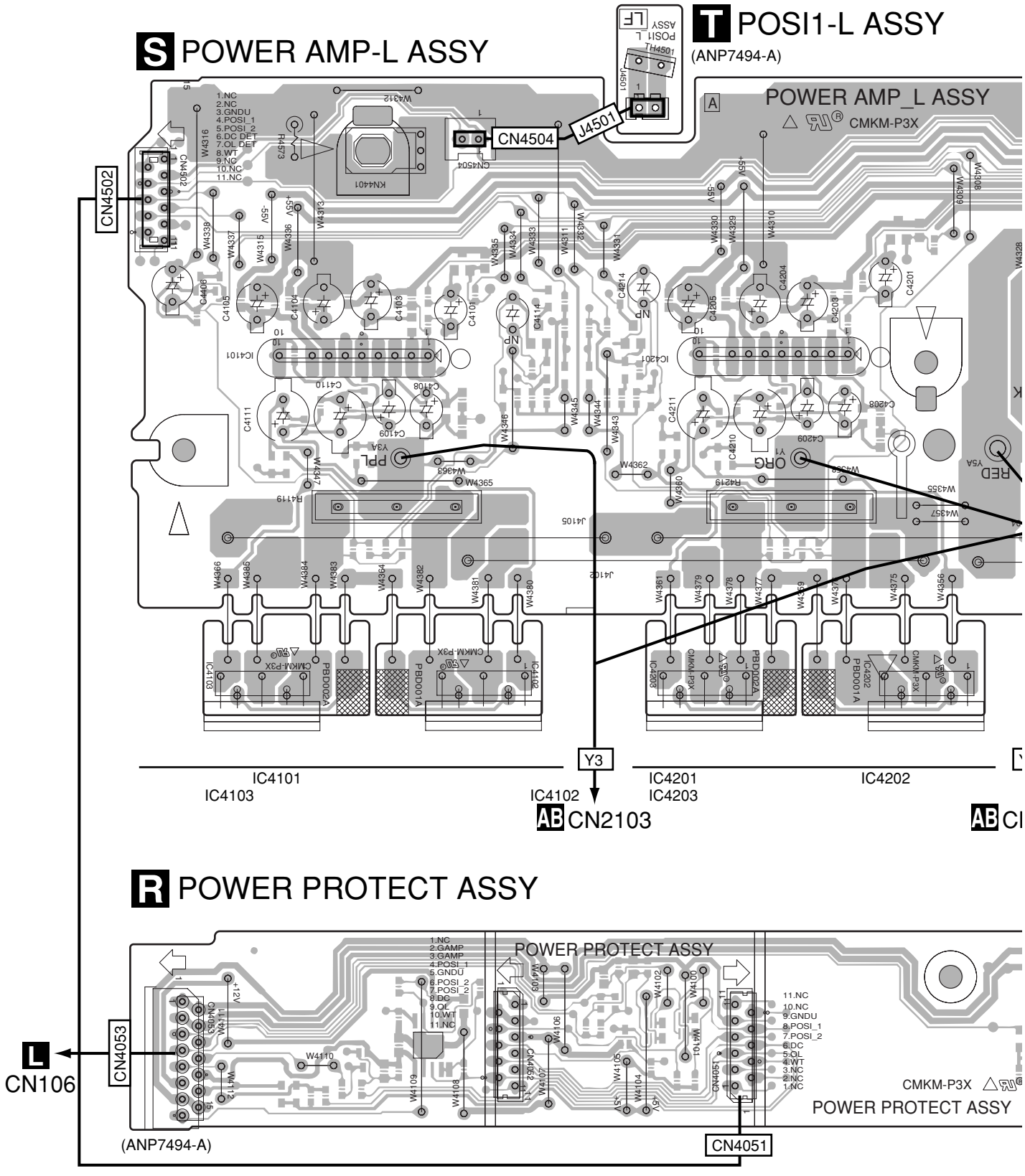
M DSP ASSY



(ANP7503-A)

4.14 POWER PROTECT, POWER AMP-L and POSI 1 L ASSYS

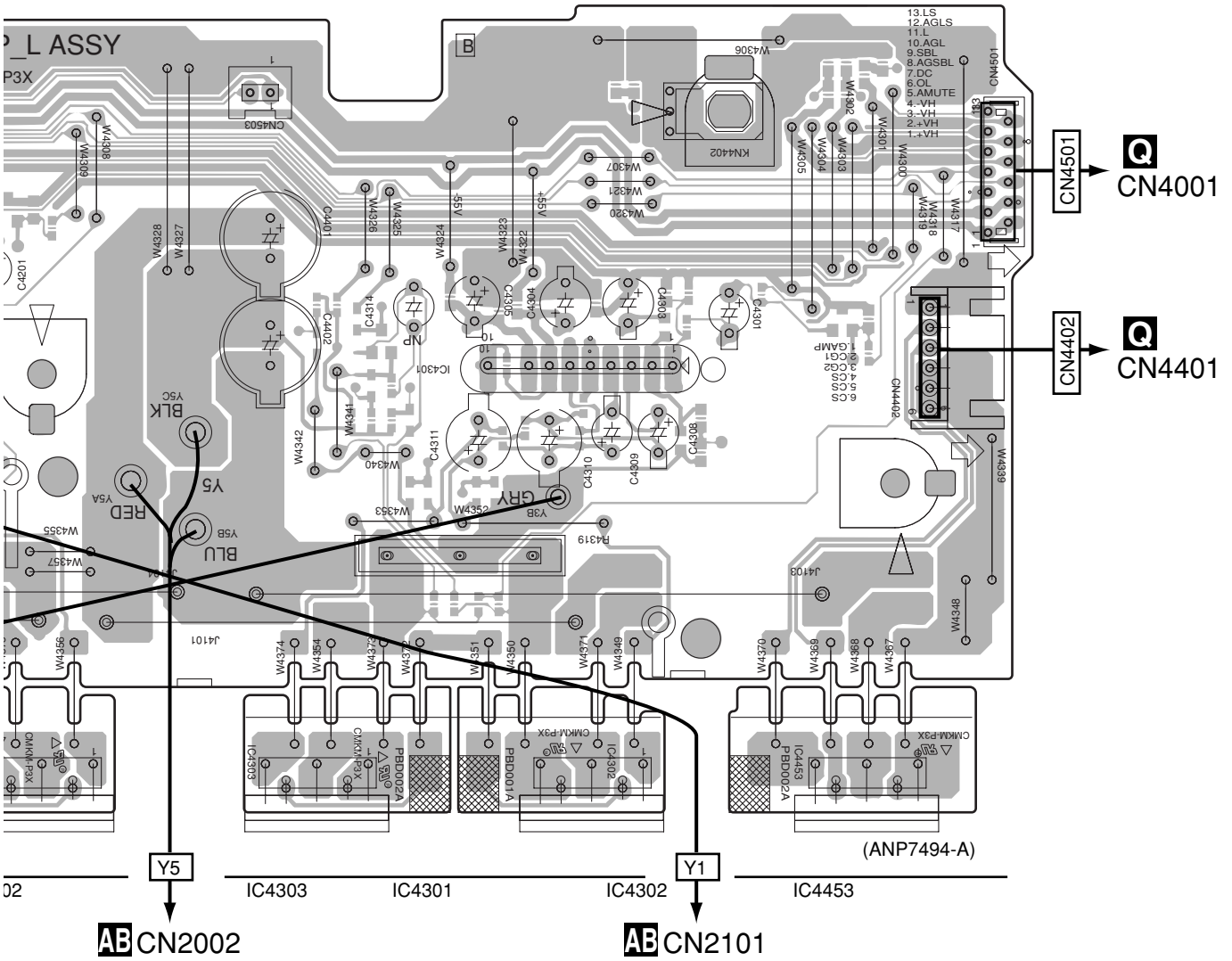
SIDE A

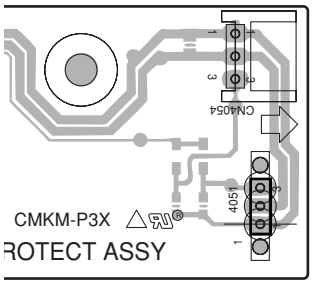


R S T

SIDE A

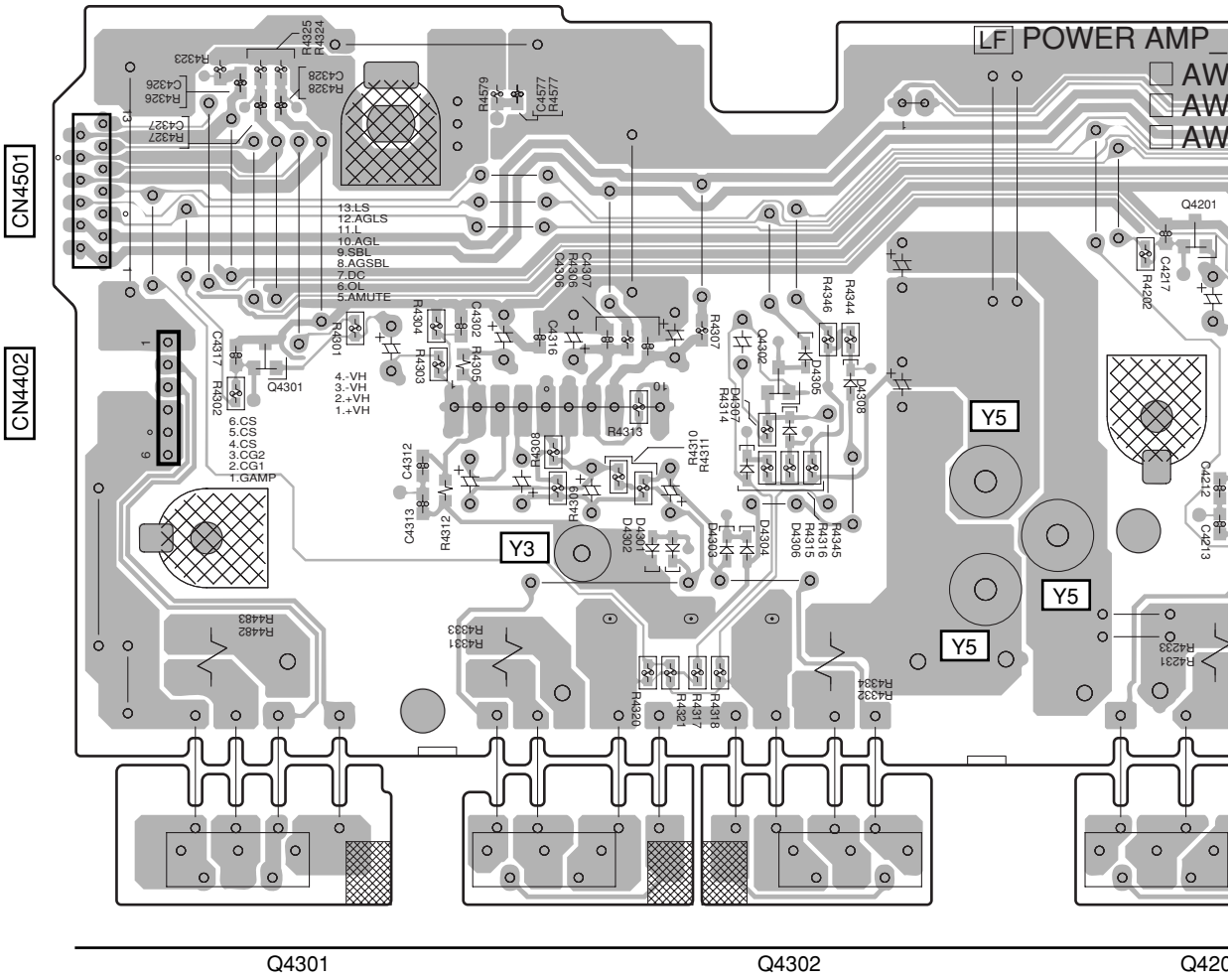
SSY


P_L ASSY
P3X
CN4501
CN4001
CN4402
CN4401
Y5
Y1
IC4303
IC4301
IC4302
IC4453
(ANP7494-A)
AB CN2002
AB CN2101

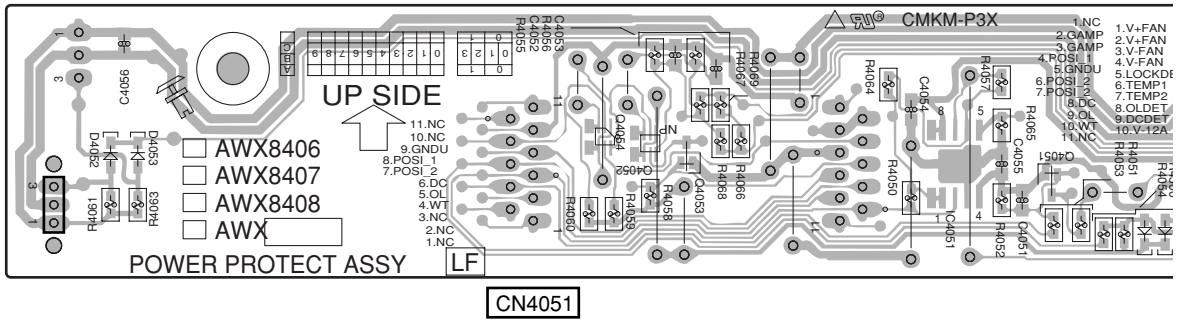

CMKM-P3X
ROTECT ASSY

SIDE B

S POWER AMP-L ASSY



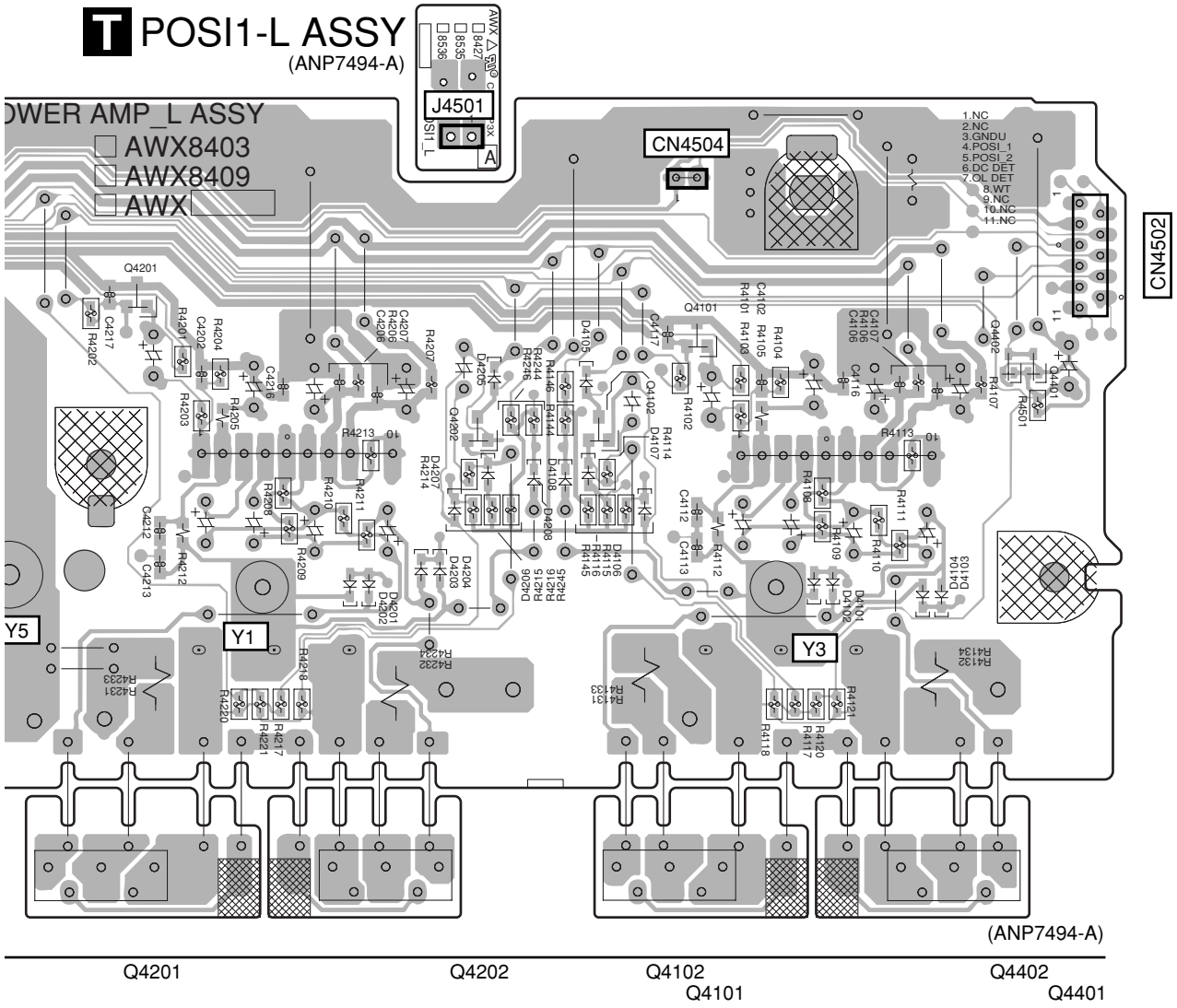
R POWER PROTECT ASSY



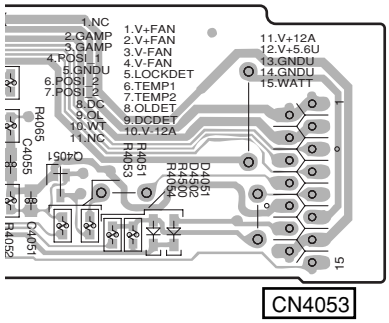
SIDE B

T POSI1-L ASSY

(ANP7494-A)



(ANP7494-A)



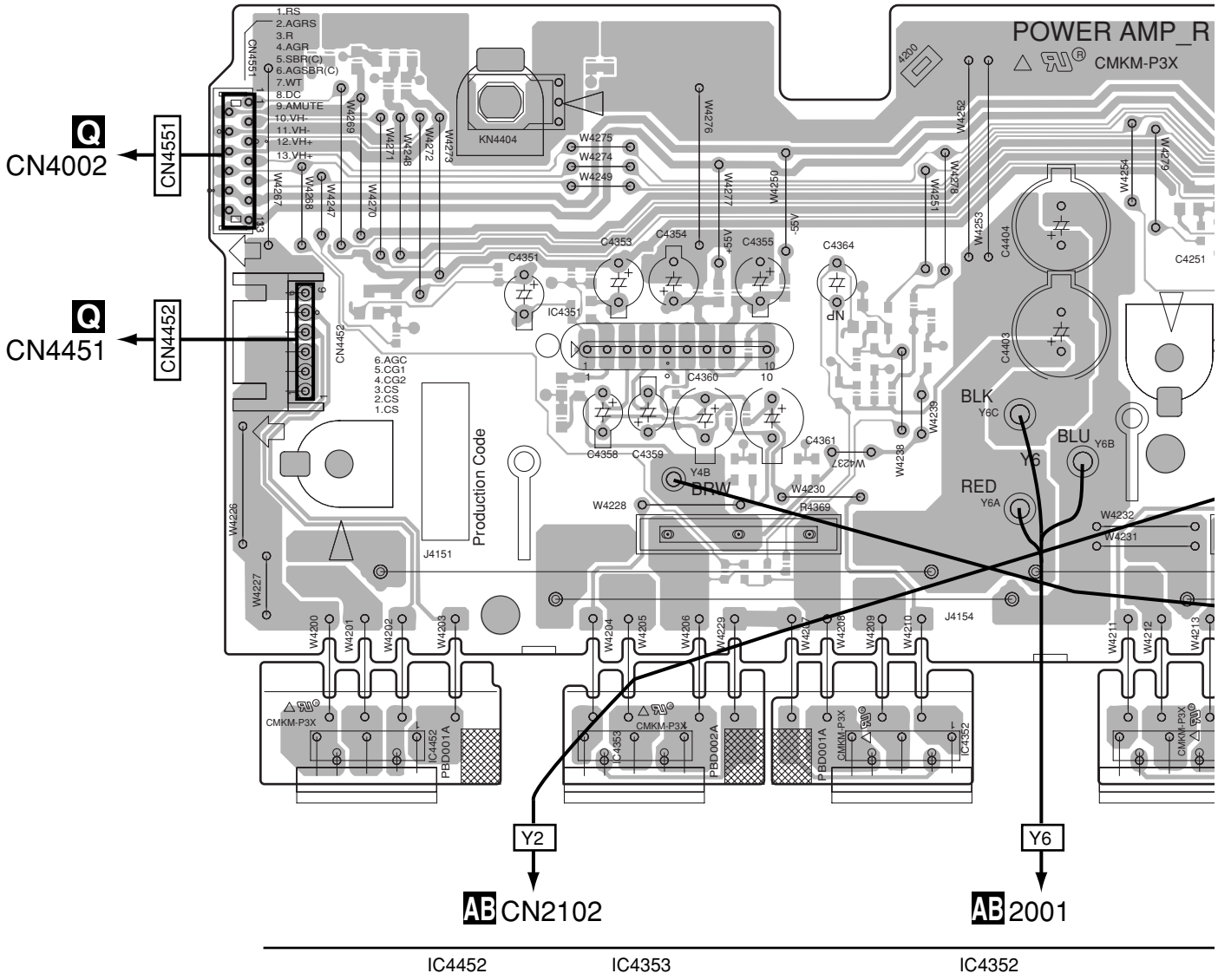
Q4051 Q4054
Q4053 Q4052
IC4051

(ANP7494-A)

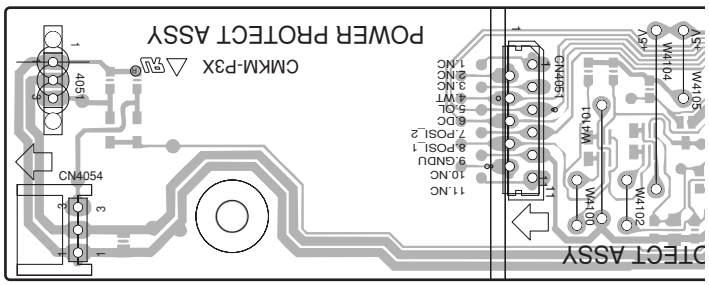
4.15 POWER AMP-R and POSI 1 R ASSYS

SIDE A

U POWER AMP-R ASSY



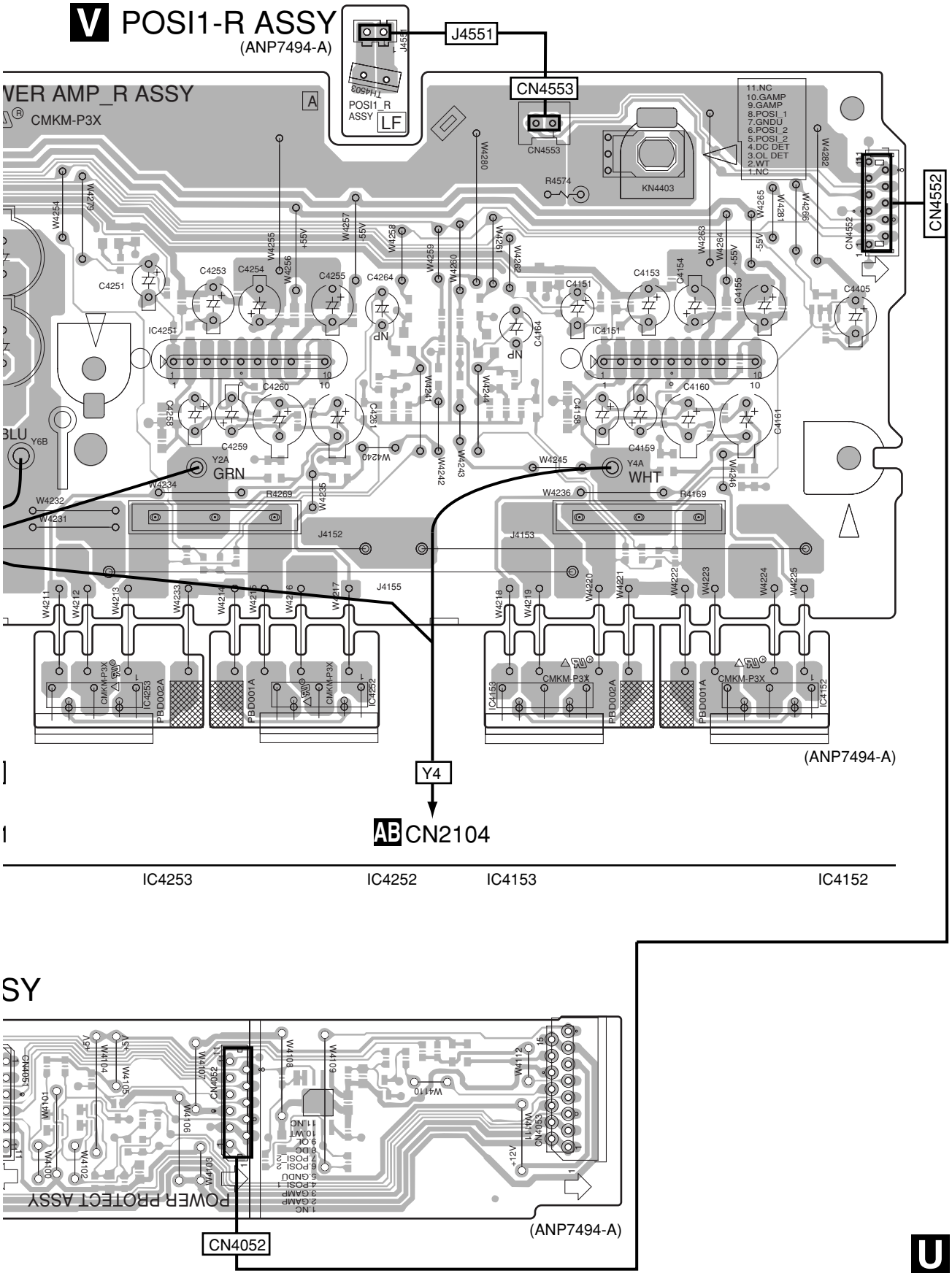
R POWER PROTECT ASSY



SIDE A

A B C D E F

V POSI1-R ASSY
(ANP7494-A)



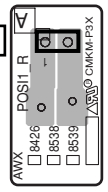
SY

SIDE B

A

U POWER AMP-R ASSY

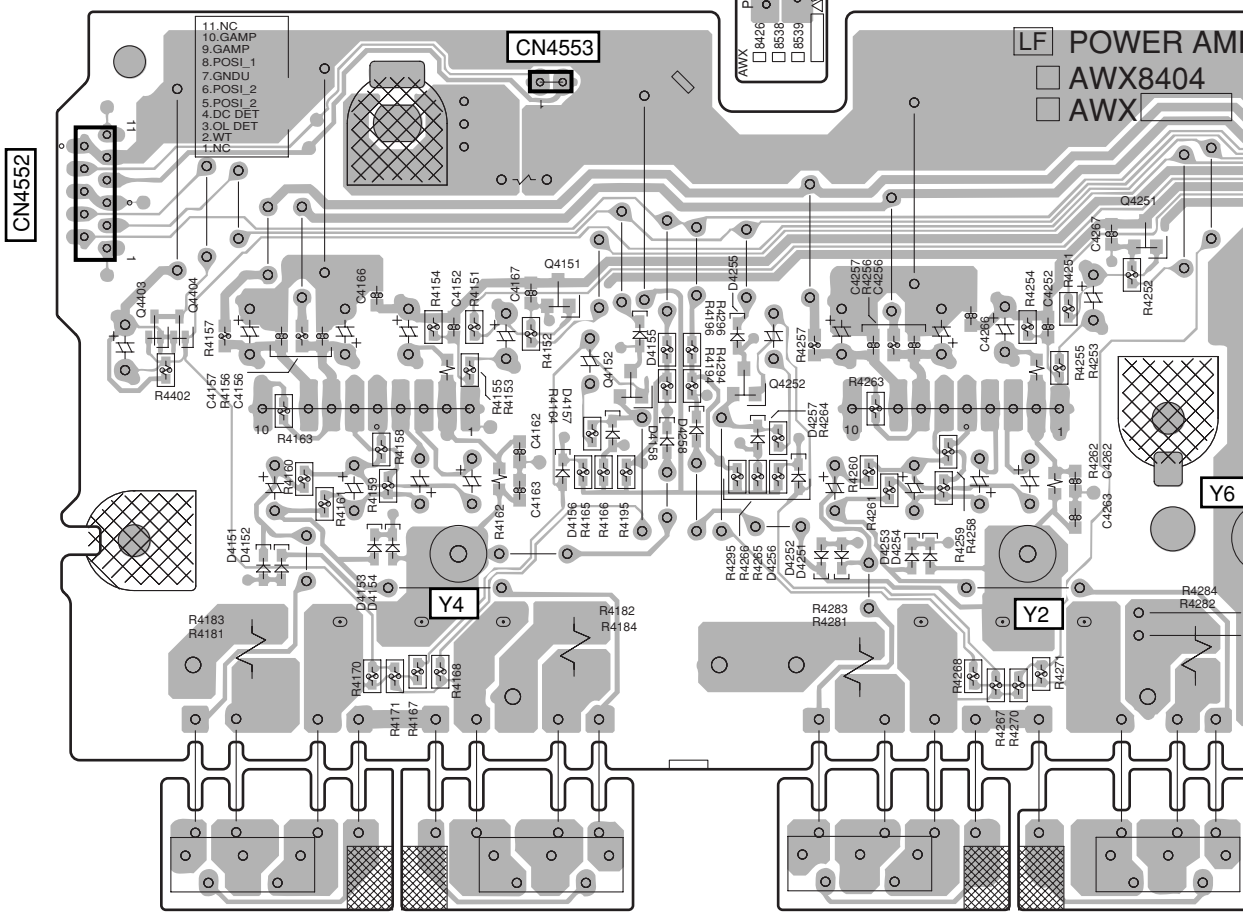
J4551



V POSI1-R ASSY

(ANP7494-A)

B

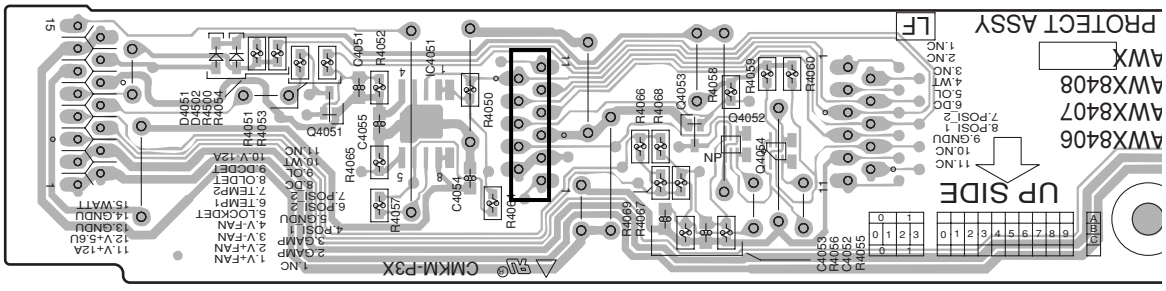


C

Q4403 Q4404 Q4151 Q4152 Q4252 Q4251

D

R POWER PROTECT ASSY



E

F

U V R

SIDE B

A

B

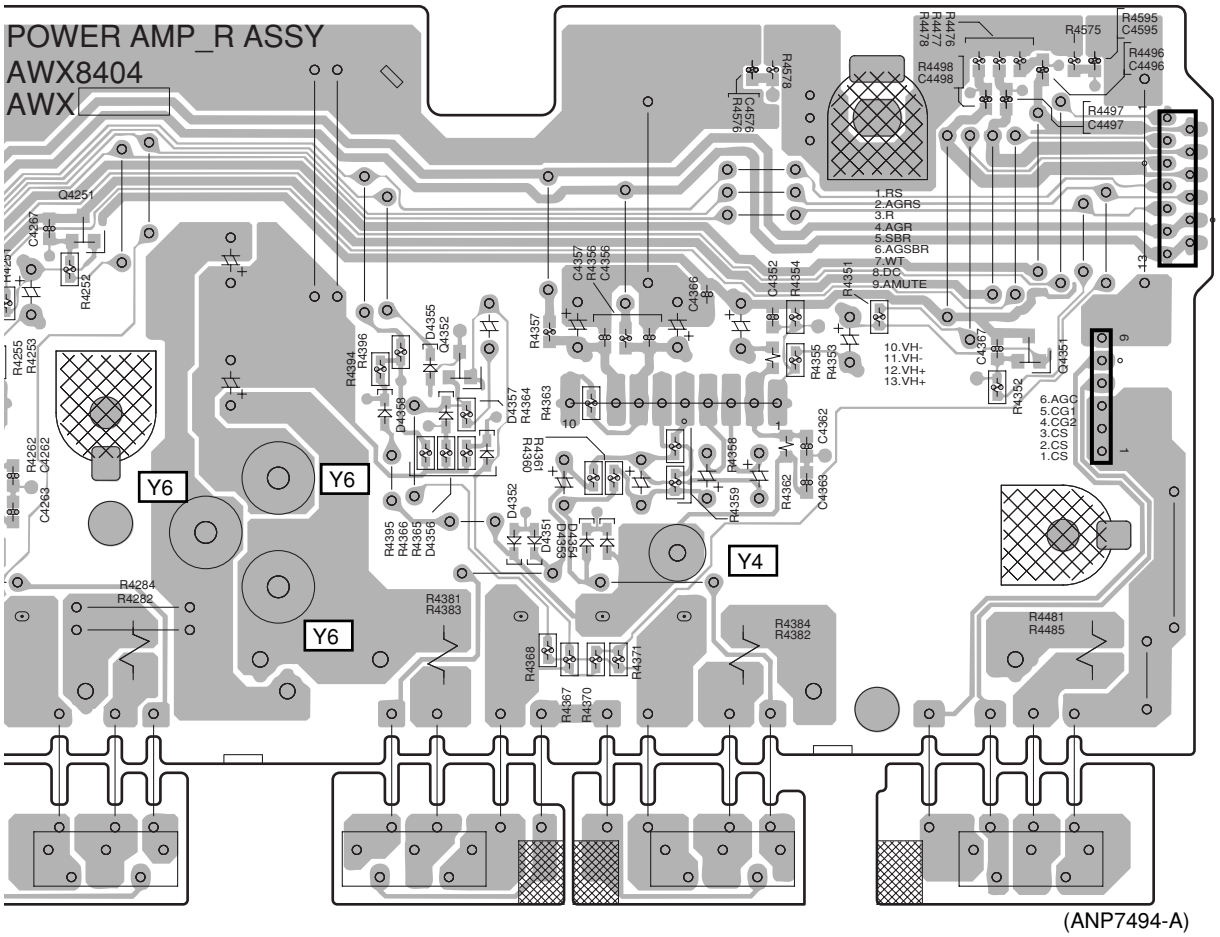
C

D

E

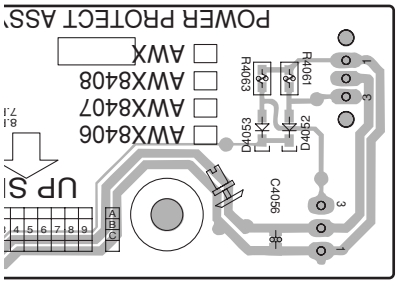
F

R



(ANP7494-A)

Q4251 Q4352 Q4351



(ANP7494-A)

IC4051

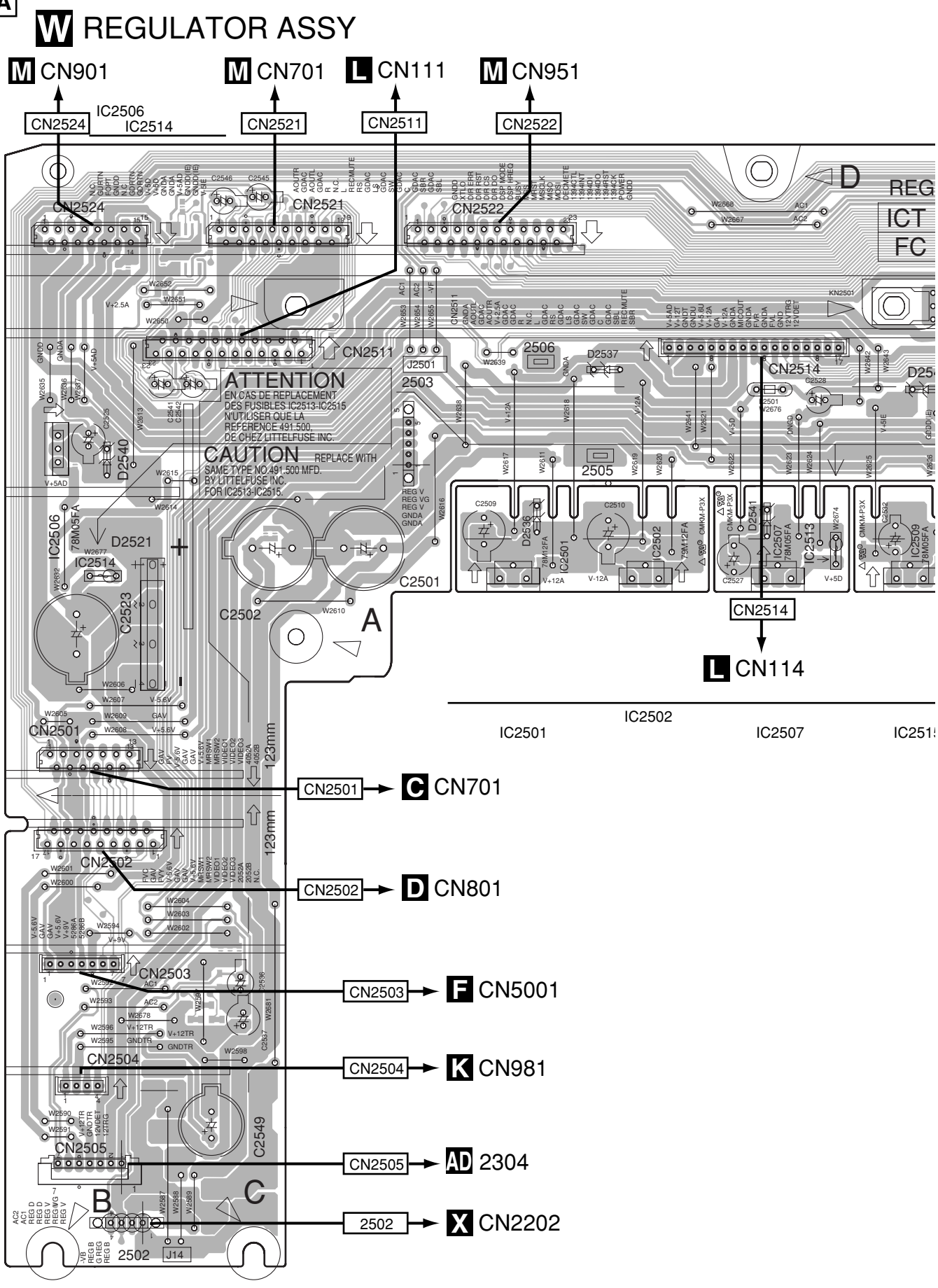
Q4053 Q4052

Q4051

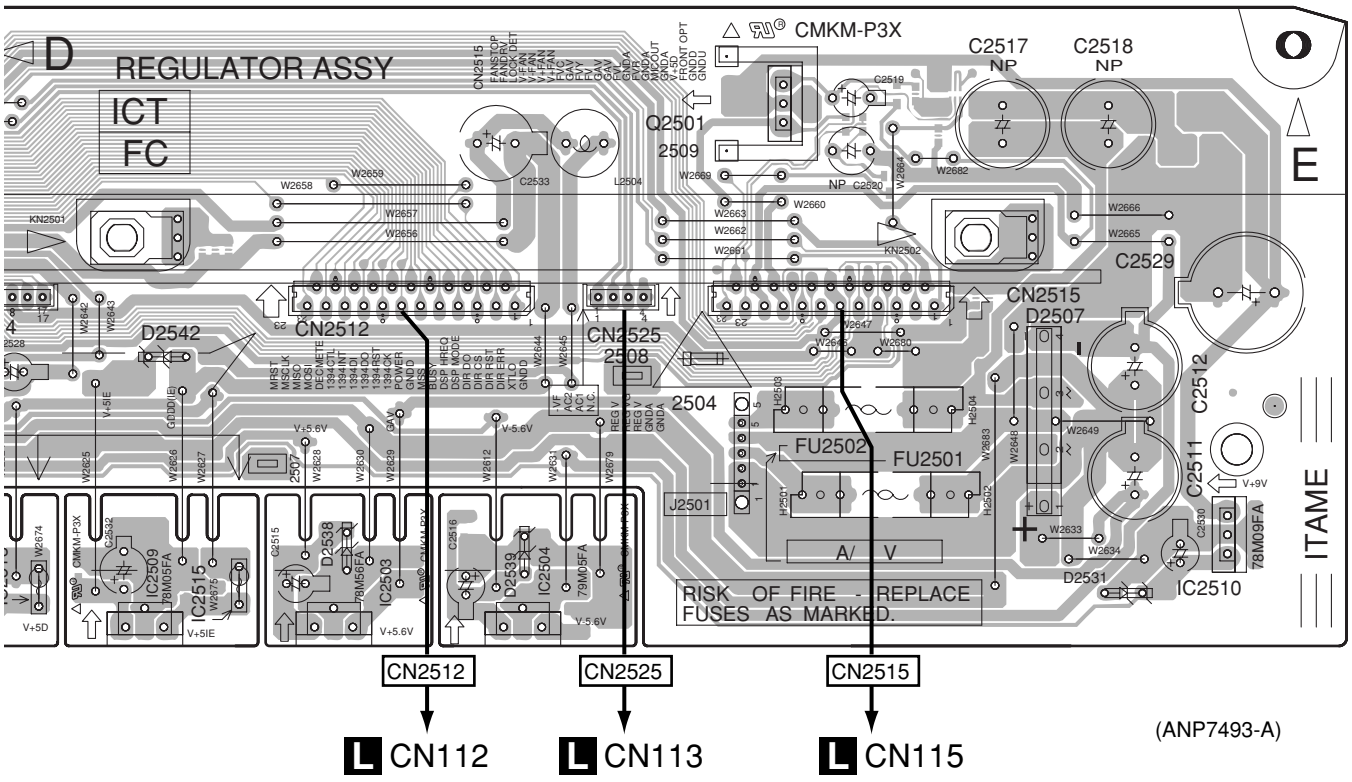
Q4054

4.16 REGULATOR ASSY

SIDE A



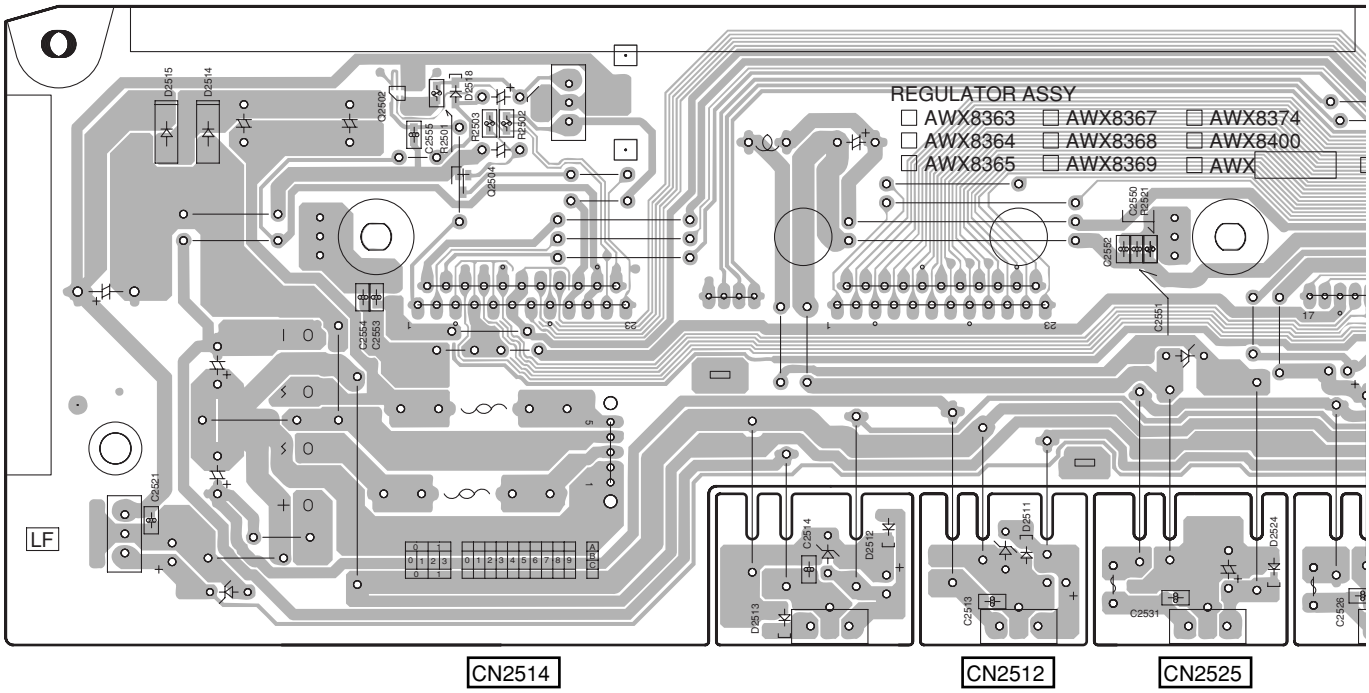
SIDE A



IC2515 IC2402 IC2401 IC2403 IC2409 Q2401 Q2402 IC2410

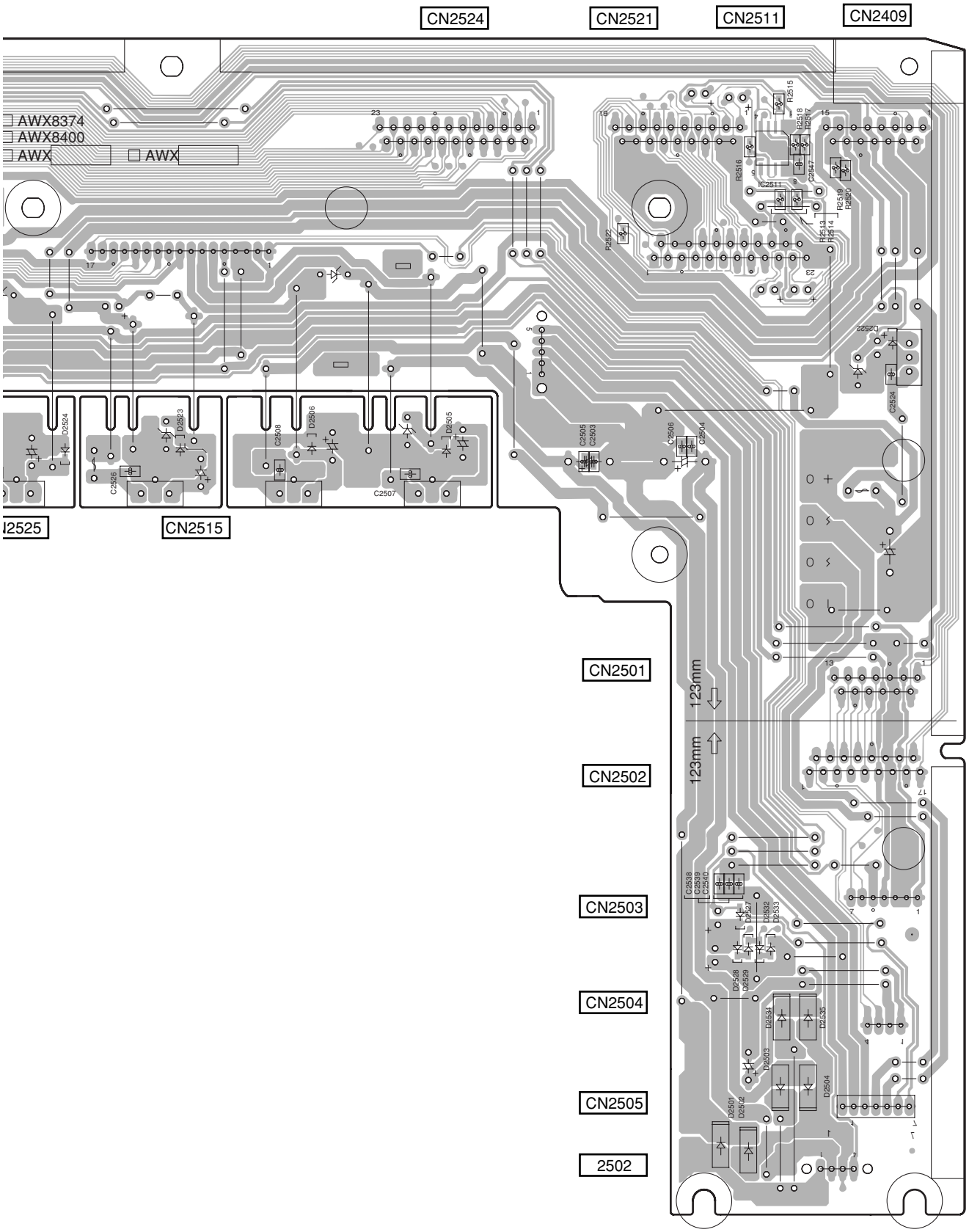
SIDE B

W REGULATOR ASSY



(ANP7493-A)

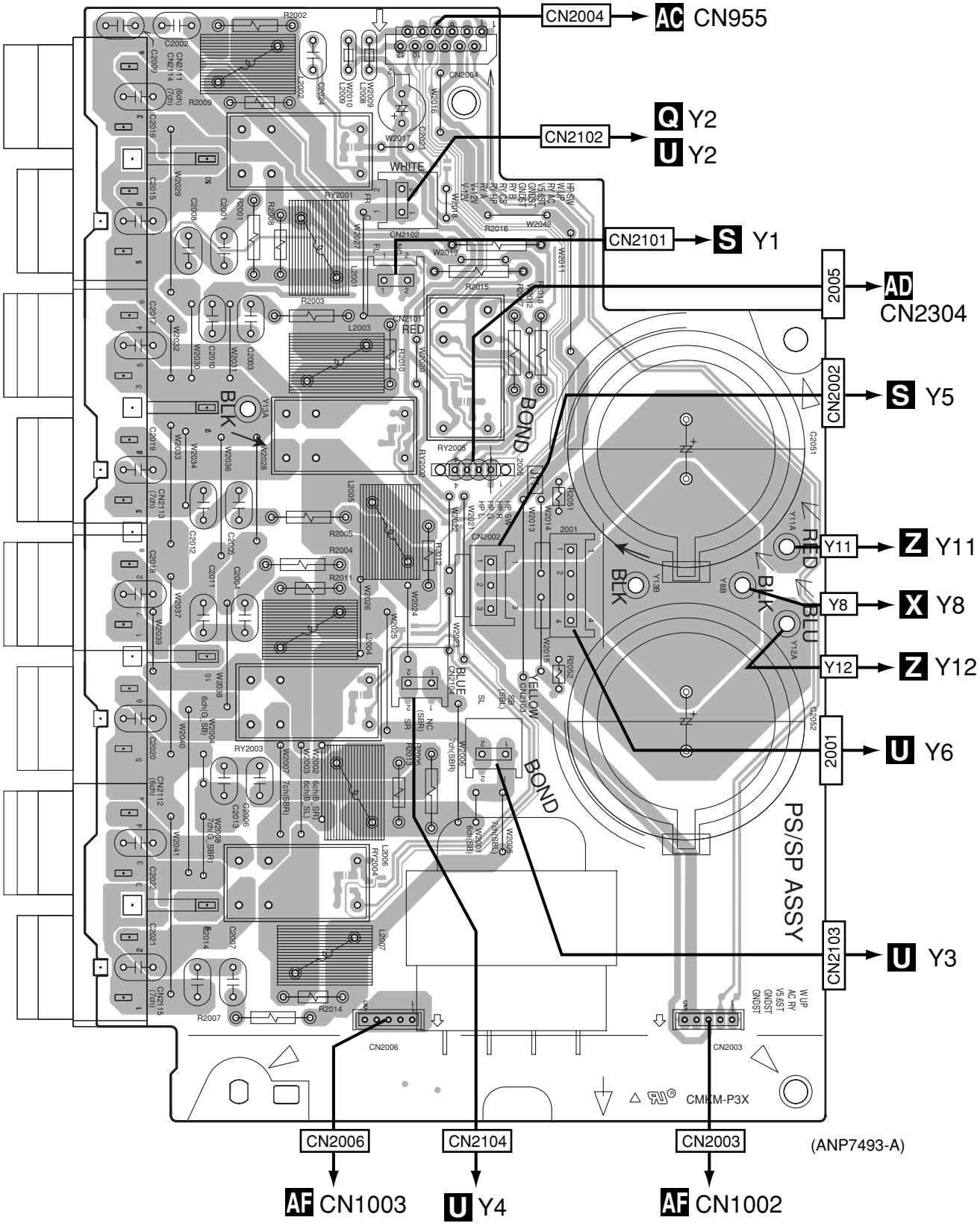
SIDE B


CN2524
CN2521
CN2511
CN2409
AWX8374
AWX8400
AWX
AWX
CN2515
CN2501
CN2502
CN2503
CN2504
CN2505
2502
123mm
123mm

4.17 SP / PS ASSY

SIDE A **SIDE A**

AB SP/PS ASSY

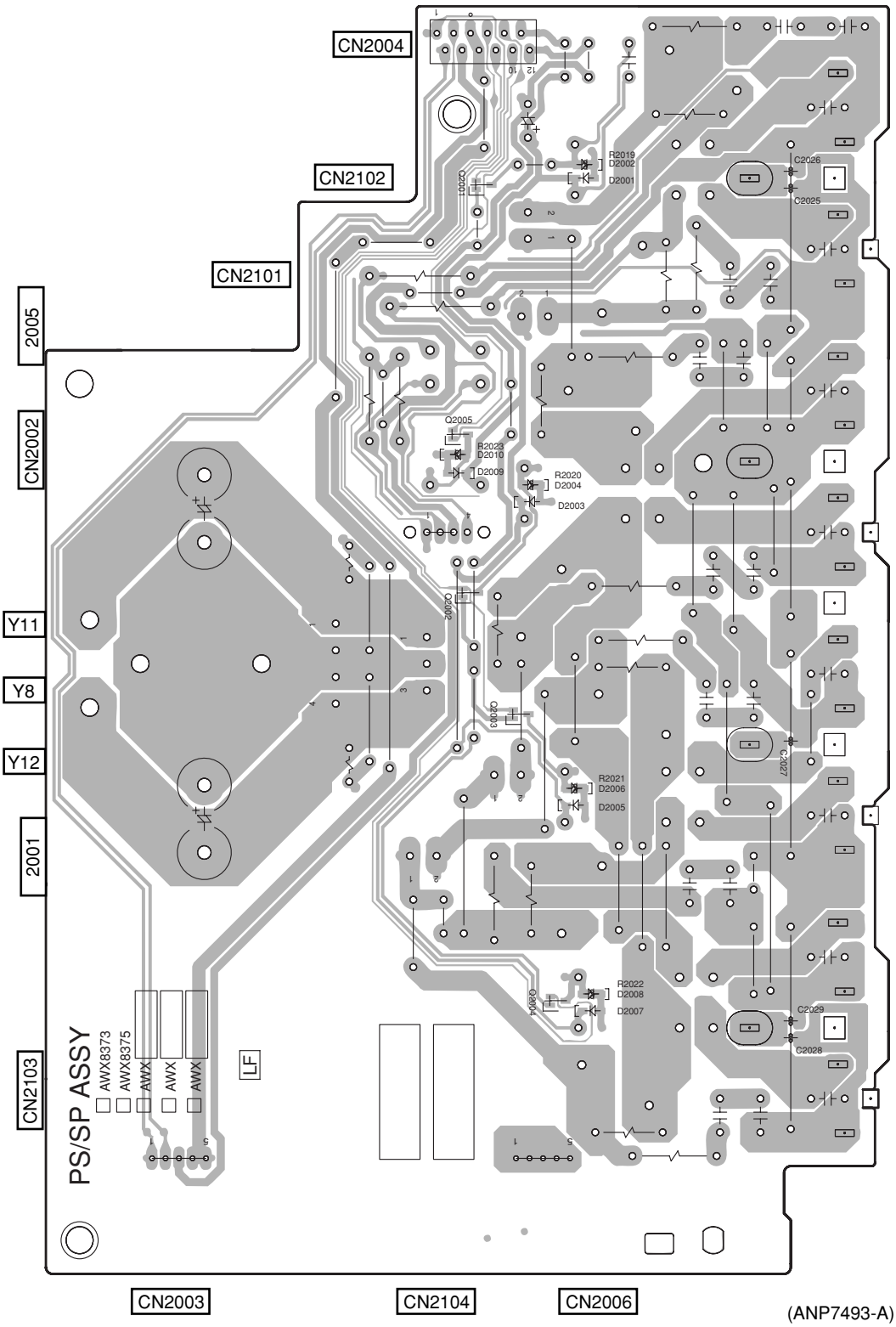


AB **AB**

SIDE B

SIDE B

AB SP/PS ASSY



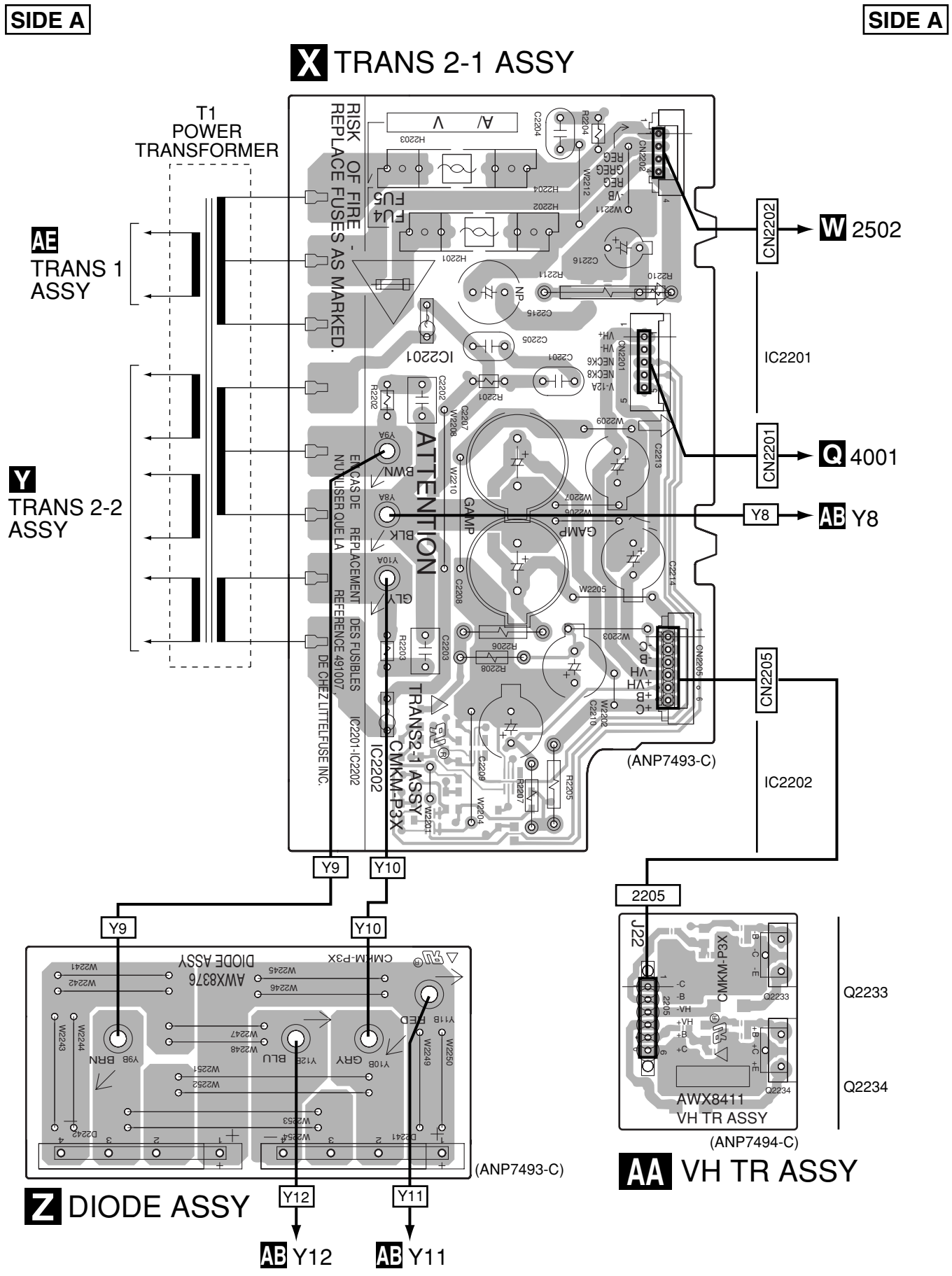
(ANP7493-A)

Q2006 Q2004
Q2002
Q2003

AB

AB

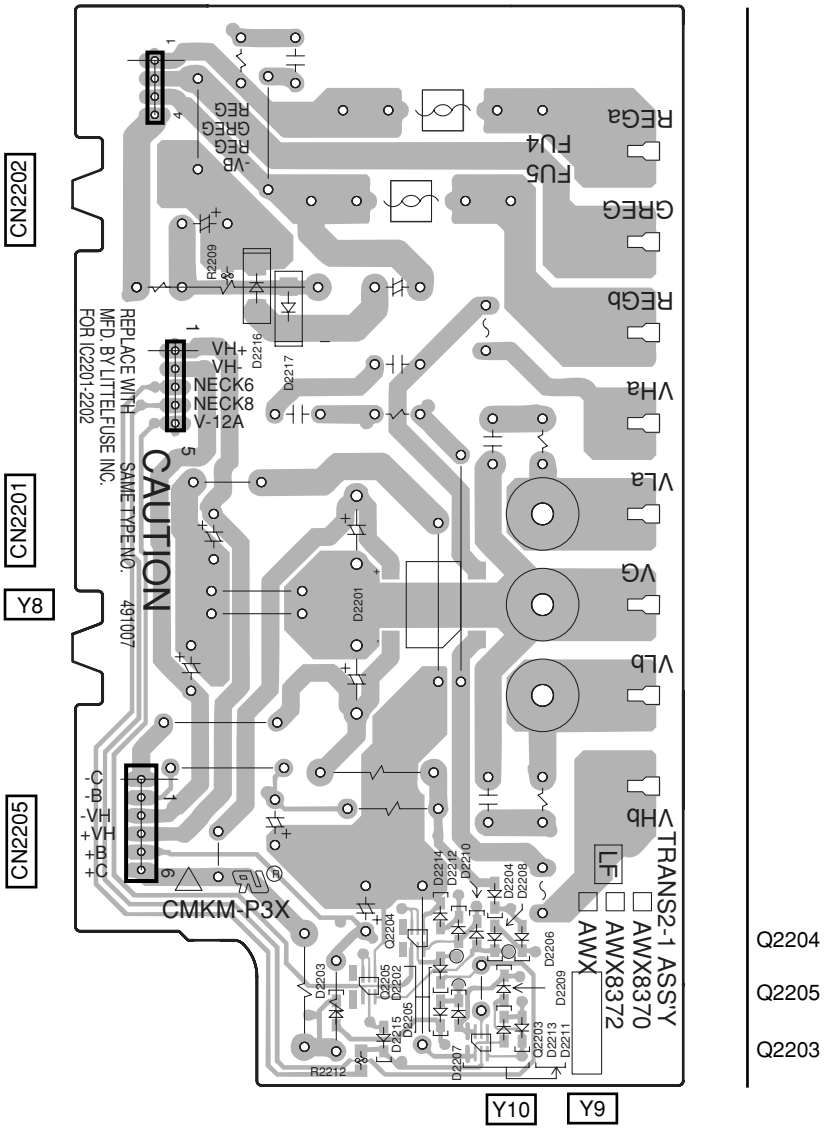
4.18 TRANS 2-1, DIODE and VH TR ASSYS

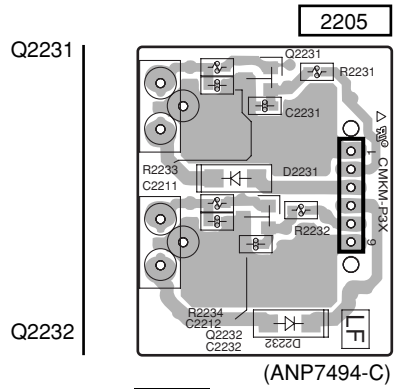


SIDE B

SIDE B

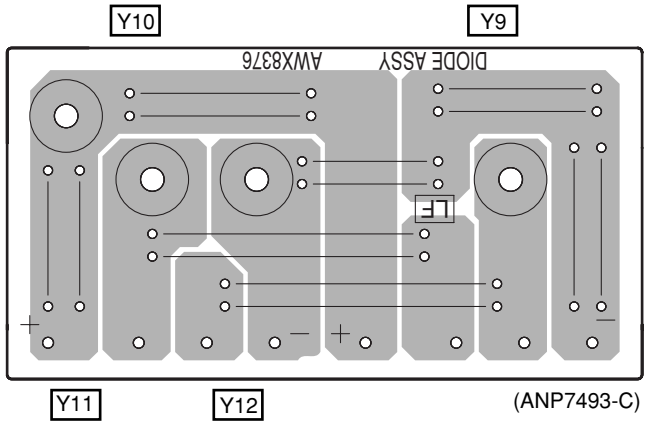
X TRANS 2-1 ASSY





(ANP7494-C)

AA VH TR ASSY



(ANP7493-C)

Z DIODE ASSY

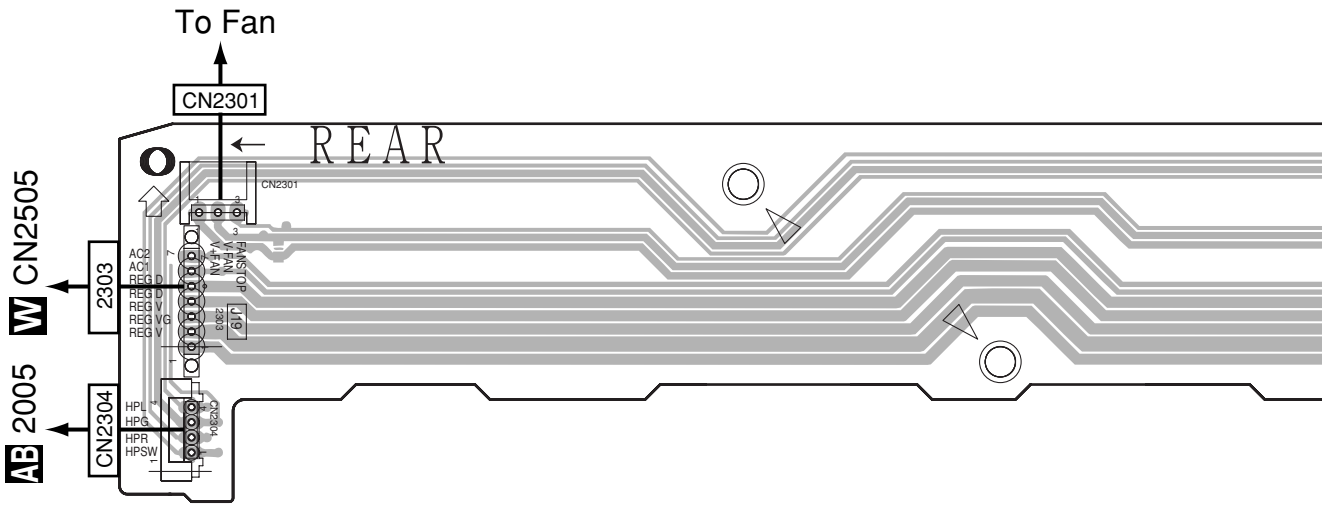
X Z AA

X Z AA

4.19 TRANS SIDE ASSY

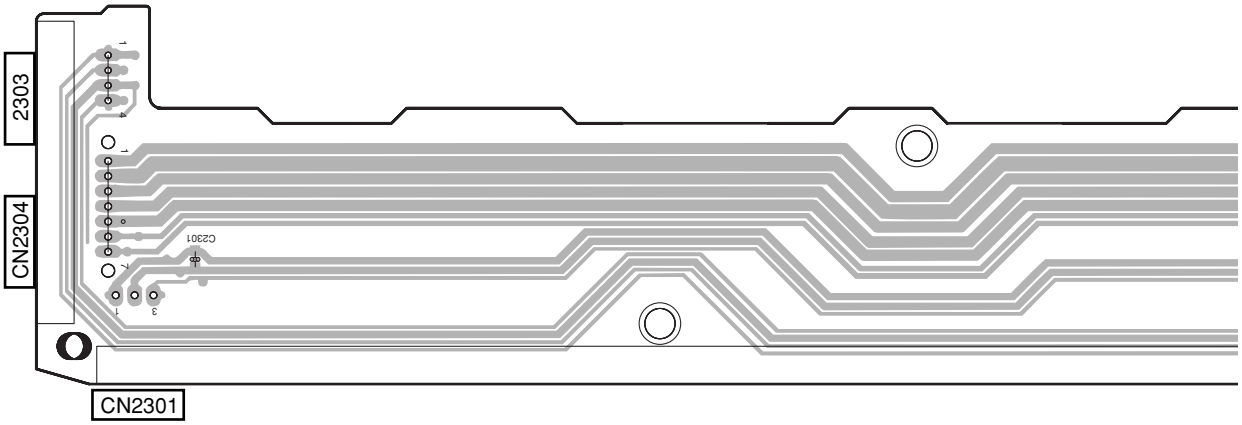
SIDE A

AD TRANS SIDE ASSY

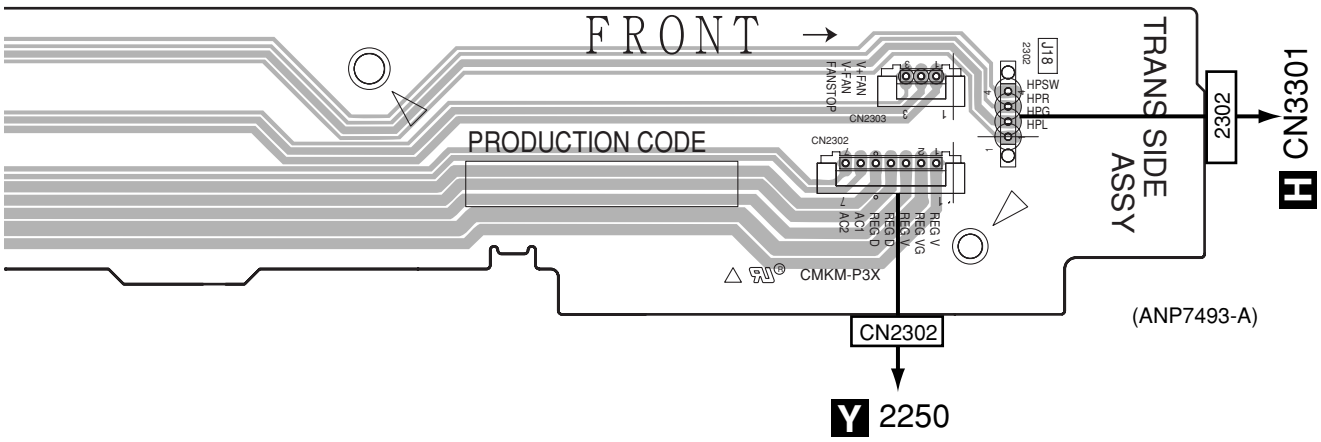


SIDE B

AD TRANS SIDE ASSY

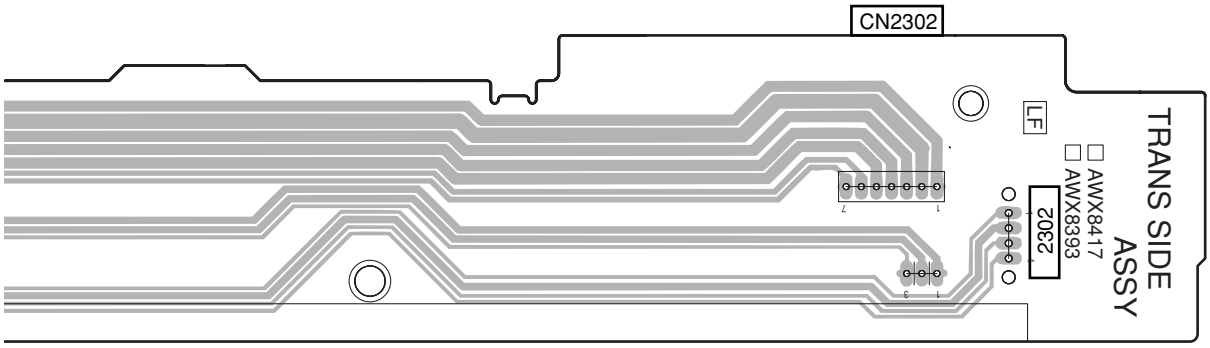


SIDE A



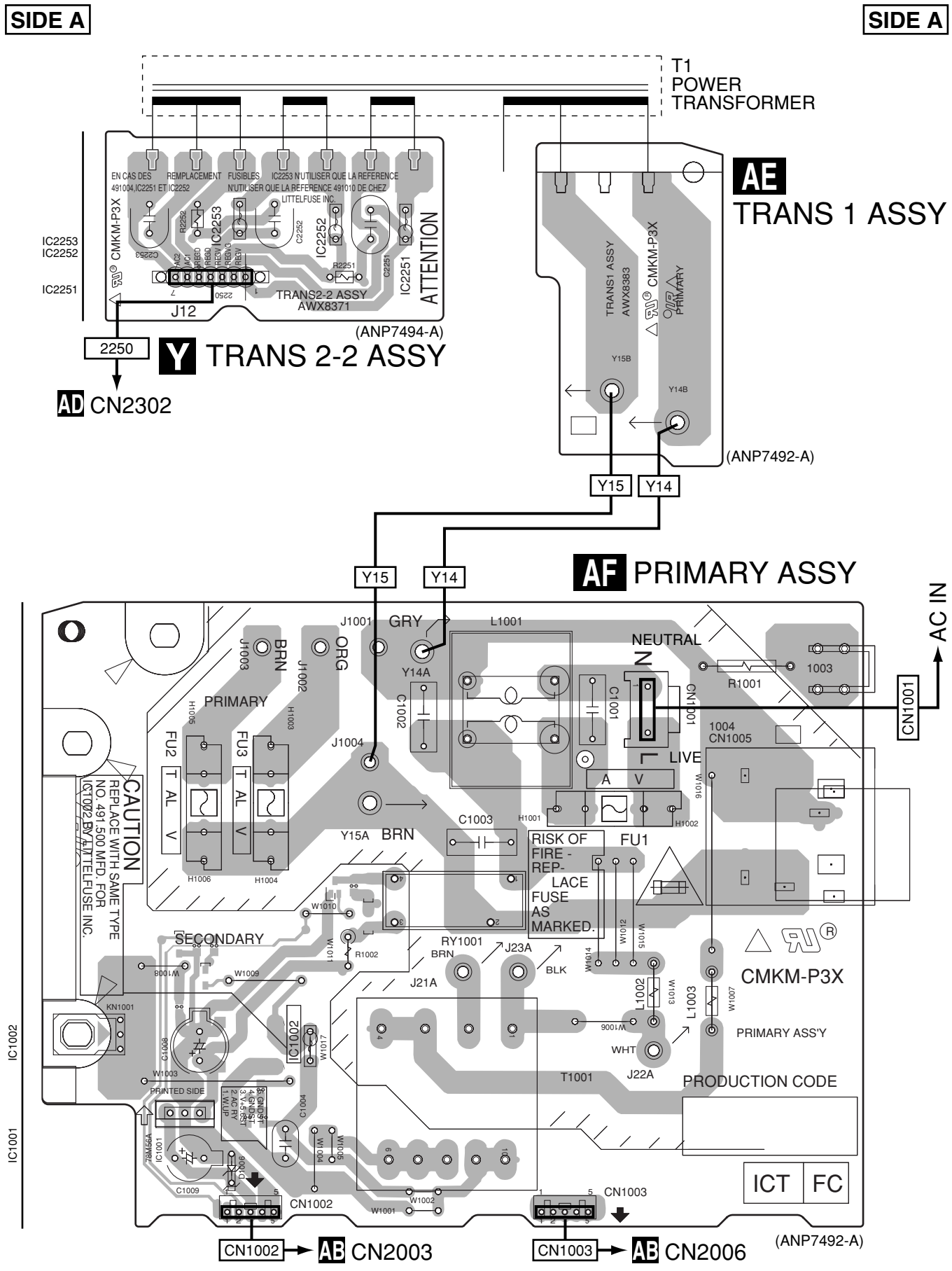
(ANP7493-A)

SIDE B



(ANP7493-A)

4.20 TRANS 2-2, TRANS 1 and PRIMARY ASSYS



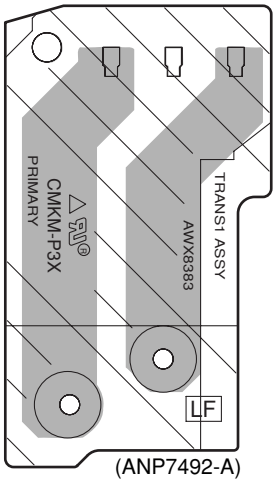
Y AE AF

Y AE AF

SIDE B

SIDE B

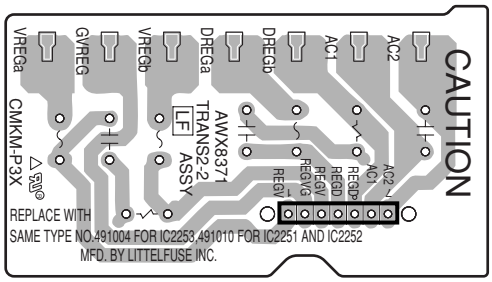
AE TRANS 1 ASSY



(ANP7492-A)

Y14 Y15

Y TRANS 2-2 ASSY

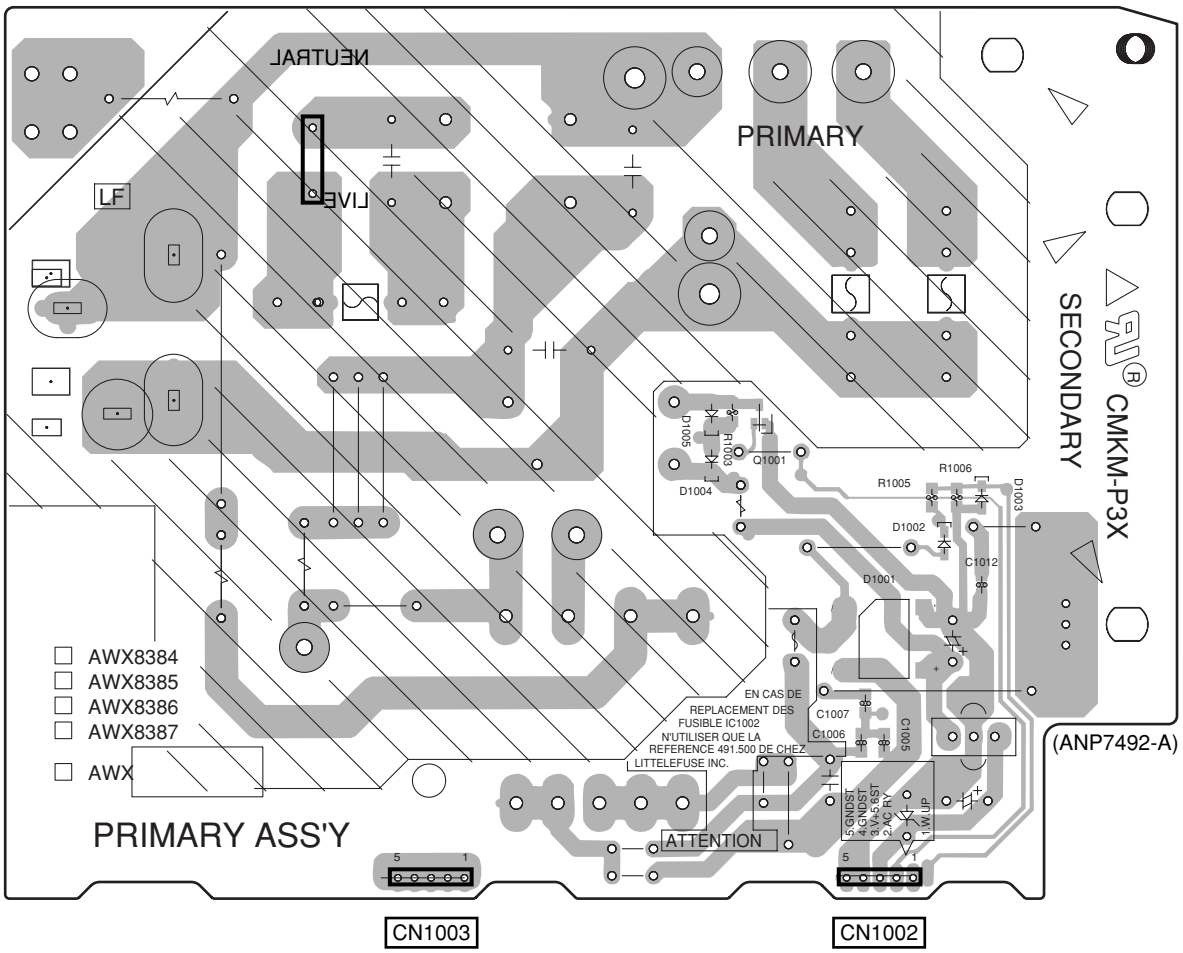


(ANP7494-A)

2250

AF PRIMARY ASSY

Y14 Y15



Y AE AF

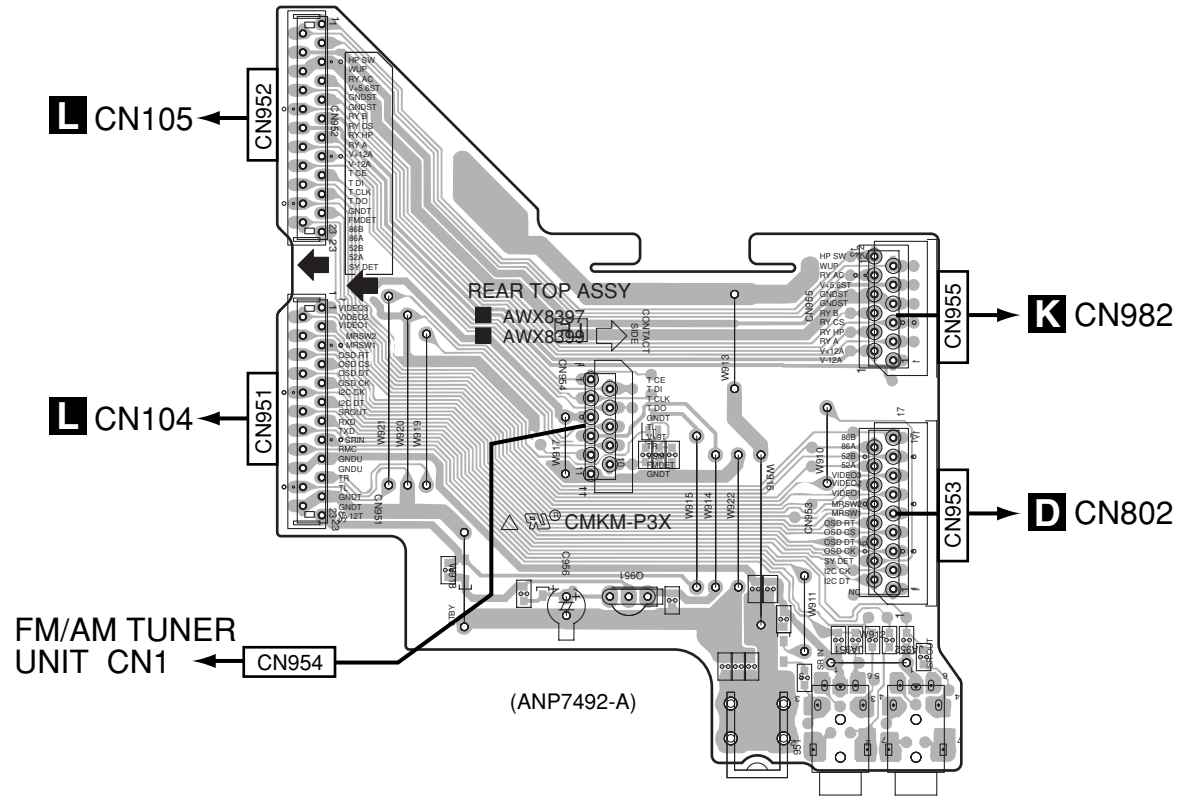
Y AE AF

4.21 REAR TOP ASSY

SIDE A

SIDE A

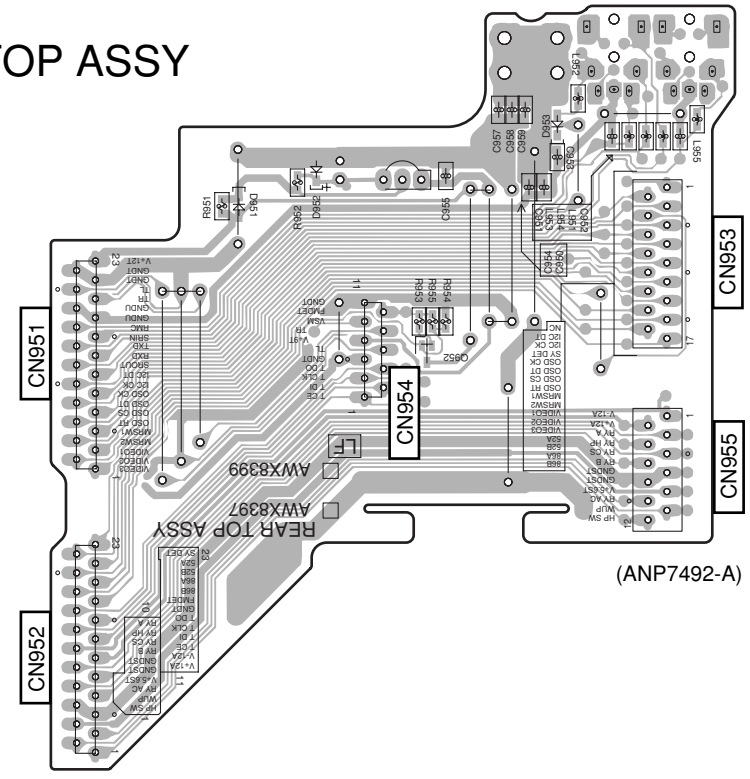
AC REAR TOP ASSY



SIDE B

SIDE B

AC REAR TOP ASSY



AC

AC

5. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10^1 → 561 ..... RD1/4PU 5 6 1 J
47k Ω → 47 x 10^3 → 473 ..... RD1/4PU 4 7 3 J
0.5 Ω → R50 ..... RN2H R 5 0 K
1 Ω → 1R0 ..... RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 x 10^1 → 5621 ..... RN1/4PC 5 6 2 1 F

• LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol and Description	VSX-52TX /KUXJ/CA	VSX-1014TX /KUXJC
	1..FM/AM TUNER UNIT	AXX7172	AXX7172
NSP	1..SECONDARY ASSY	AWK7814	AWK7818
	2..REGULATOR ASSY	AWX8364	AWX8367
	2..TRANS 2-1 ASSY	AWX8372	AWX8372
	2..SP/PS ASSY	AWX8373	AWX8373
	2..DIODE ASSY	AWX8376	AWX8376
	2..TRANS SIDE ASSY	AWX8417	AWX8417
NSP	1..COMPLEX ASSY	AWK7806	AWK7810
	2..DISPLAY ASSY	AWX8377	AWX8389
	2..VOLUME ASSY	AWX8378	AWX8378
	2..MULTI JOG ASSY	AWX8379	AWX8379
	2..HEADPHONE ASSY	AWX8380	AWX8380
	2..FRONT IN ASSY	AWX8381	AWX8381
	2..AUDIO CONNECT ASSY	AWX8382	AWX8382
	2..TRANS 1 ASSY	AWX8383	AWX8383
	2..PRIMARY ASSY	AWX8384	AWX8384
	2..OPTICAL-IN ASSY	AWX8394	AWX8394
	2..REAR TOP ASSY	AWX8397	AWX8397
	2..FRONT-IN CONNECT ASSY	AWX8416	AWX8416
NSP	1..MAIN ASSY	AWK7798	AWK7802
	2..MAIN CONTROL ASSY	AWX8343	AWX8348
	2..COMPOSITE V ASSY	AWX8353	AWX8362
	2..COMPONENT ASSY	AWX8358	AWX8358
	2..S VIDEO ASSY	AWX8361	AWX8361
	2..VIDEO SIDE ASSY	AWX8366	AWX8366
	2..MULTI CH I/O ASSY	AWX8410	AWX8352
NSP	1..POWER AMP ASSY	AWK7822	AWK7826
	2..TRANS 2-2 ASSY	AWX8371	AWX8371
	2..12V TRIGGER ASSY	AWX8395	Not used
	2..POWER AMP-R ASSY	AWX8404	AWX8404
	2..POWER AMP IN ASSY	AWX8405	AWX8405
	2..POWER PROTECT ASSY	AWX8406	AWX8406
	2..POWER AMP-L ASSY	AWX8409	AWX8409
	2..VH TR ASSY	AWX8411	AWX8411
	2..POSI 1 R ASSY	AWX8426	AWX8426
	2..POSI 1 L ASSY	AWX8427	AWX8427
	1..DSP ASSY	AWX8414	AWX8414

• CONTRAST OF PCB ASSEMBLIES

A MULTI CH I/O ASSY

AWX8410 and AWX8352 are constructed the same except for the following :

Mark	Symbol and Description	AWX8410	AWX8352
	IC604	BD3812F	Not used
	Q671	HN1C03FU(AB)	Not used
	C671- C674	CEAT100M50	Not used
	C675, C676	CCSRCH101J50	Not used
	C677, C678, C694	CKSRYB103K50	Not used
	C697, C698	CCSRCH331J50	Not used
	R671- R674	RS1/16S102J	Not used
	R675- R678	RS1/16S103J	Not used
	R679, R680	RS1/16S102J	Not used
	R681	RS1/16S104J	Not used
	JA605 2P PIN JACK	VKB1060	Not used

C COMPOSITE V ASSY

AWX8353 and AWX8362 are constructed the same except for the following :

Mark	Symbol and Description	AWX8353	AWX8362
	IC 721	NJM2279M	Not used
	D721	DAN202K	Not used
	C721	CCSRCH181J50	Not used
	C722, C723	CEAT101M16	Not used
	C724, C725, C726	CKSRYB473K25	Not used
	C727	CCSRCH220J50	Not used
	C728	CKSRYB224K16	Not used
	R721, R725	RS1/16S750J	Not used
	R722- R724	RS1/16S102J	Not used
	JA721 1P PINJACK	VKB1063	Not used

L MAIN CONTROL ASSY

AWX8343 and AWX8348 are constructed the same except for the following :

Mark	Symbol and Description	AWX8343	AWX8348
	IC501	PD5957A8	PD5956A
	Q502	DTA124EUA	Not used
	C508	CKSRYB103K50	Not used
	R502	RS1/16S0R0J	Not used
	R523	RS1/16S473J	Not used
	R501	Not used	RS1/16S0R0J
	R524	RS1/16S102J	Not used
	R553, R554	RS1/16S101J	Not used
	CN108 KR CONNECTOR	B8B-PH-K-S	Not used

O DISPLAY ASSY

AWX8377 and AWX8389 are constructed the same except for the following :

Mark	Symbol and Description	AWX8377	AWX8389
	IC3003	TC7W53FU	Not used
	Q3003	DTA124EUA	Not used
	Q3004	FMA1A	Not used
	D3005, D3007- D3009	1SS355	Not used
	C3009	CKSRYB153K50	Not used
	R3008	RS1/16S223J	Not used
	R3009, R3010	RS1/16S103J	Not used
	R3011	RS1/16S392J	Not used
	R3019	RS1/16S0R0J	Not used
	R3065	Not used	RS1/16S473J

W REGULATOR ASSY

AWX8364 and AWX8367 are constructed the same except for the following :

Mark	Symbol and Description	AWX8364	AWX8367
	D2534, D2535	1SR154-400	Not used
	C2549	CEAT102M25	Not used
	CN2504 4P PLUG	KM200TA4	Not used
	2506 PCB BINDER	UEF1040	Not used

• PARTS LIST FOR VSX-52TX

Mark	No.	Description	Part No.
		COMPLEX ASSY	
		OTHERS	
	Y15	BOARD IN JUMPER	ADX7418
	Y14	BOARD IN JUMPER	ADX7419
	J8	JUMPER WIRE	D15A04-100-2651
	J7	JUMPER WIRE	D15A05-075-2651
		SECONDARY ASSY	
		OTHERS	
	Y8	BOARD IN JUMPER	ADX7451
	Y9	BOARD IN JUMPER	ADX7452
	Y10	BOARD IN JUMPER	ADX7453
	Y11	BOARD IN JUMPER	ADX7454
	Y12	BOARD IN JUMPER	ADX7455
	Y13	BOARD IN JUMPER	ADX7461
	J2501	JUMPER WIRE 5P	D20PDD0520E
	J11, J18	JUMPER WIRE 4P	D20PDY0410E
	J14	JUMPER WIRE 4P	D20PDY0425E
	J19	JUMPER WIRE 7P	D20PDY0715E
		POWER AMP ASSY	
		OTHERS	
	Y5	BOARD IN JUMPER	ADX7404
	Y6	BOARD IN JUMPER	ADX7456
	Y1	BOARD IN JUMPER	ADX7457
	Y3	BOARD IN JUMPER	ADX7458
	Y2	BOARD IN JUMPER	ADX7459
	Y4	BOARD IN JUMPER	ADX7460
	J13	JUMPER WIRE 5P	D20PDY0530E
	J22	JUMPER WIRE 6P	D20PDY0615E
	J12	JUMPER WIRE 7P	D20PDY0710E

A MULTI I/O ASSY

SEMICONDUCTORS

	IC604	BD3812F
	Q631, Q632, Q641, Q642	HN1C03FU
	Q651, Q652, Q661, Q662, Q671	HN1C03FU
	D691	UDZS5R1(B)

CAPACITORS

	C601-C604, C611-C614	CCSRCH101J50
	C621-C624, C675, C676	CCSRCH101J50
	C631, C632, C641, C642	CCSRCH331J50
	C651, C652, C661, C662	CCSRCH331J50
	C697, C698	CCSRCH331J50
	C607, C608, C617, C618	CEAT100M50
	C627, C628, C671-C674	CEAT100M50
	C677, C678, C694-C696	CKSRYB103K50

RESISTORS

	All Resistors	RS1/16S###J

Mark	No.	Description	Part No.
		OTHERS	
	601, 602	6P PIN JACK	AKB7089
	JA604	2P PIN jACK	AKB7165
	CN602	21P SOCKET	AKP7074
	CN601	23P SOCKET	AKP7178
	JA605	2P PIN JACK	VKB1060

B AUDIO CONNECT ASSY

OTHERS

	CN905 18P FFC CONNECTOR	52044-1845
	CN904 21P PLUG	AKP7063
	CN903 23P PLUG	AKP7064
	CN902 21P SOCKET	AKP7074
	CN901 23P SOCKET	AKP7178

C COMPOSITE V ASSY

SEMICONDUCTORS

	IC741	MM1093NF
	IC721	NJM2279M
	IC701	NJM2595M
	IC731	TC74HC4052AF
	IC742	TC90A49F
	IC732	TK15420M
	Q741, Q742	2SA1576A
	Q731, Q743-Q745	2SC4081
	D741	1SS355
	D701, D702, D721	DAN202K

COILS AND FILTERS

	X741 CRYSTAL RESONATOR	ASS1091
	L741	LCYA330J2520

CAPACITORS

	C753, C755, C784	CCSRCH100D50
	C712, C782	CCSRCH101J50
	C705, C706, C721, C774	CCSRCH181J50
	C727	CCSRCH220J50
	C711	CCSRCH221J50
	C783	CCSRCH390J50
	C760	CCSRCH391J50
	C747	CCSRCH560J50
	C757	CCSRCH6R0D50
	C701-C704, C707, C708	CEAT101M16
	C713, C714, C722, C723, C733	CEAT101M16
	C736, C737, C741, C742, C744	CEAT101M16
	C763, C765, C766, C768	CEAT101M16
	C785	CEAT102M10
	C748	CEAT1R0M50
	C781	CEAT470M16
	C750, C752, C758	CEAT4R7M50

Mark No.	Description	Part No.
	C759	CKSRYB102K50
	C715, C716, C743, C746, C751	CKSRYB103K50
	C756, C764, C767, C769-C773	CKSRYB103K50
	C775-C777	CKSRYB103K50
	C731, C732, C745, C780	CKSRYB104K25
	C796	CKSRYB105K6R3
	C754	CKSRYB122K50
	C717, C728	CKSRYB224K16
	C709, C710, C724-C726	CKSRYB473K25
	C734, C735, C738, C739	CKSRYB473K25
	C762	CKSRYB474K10
	C749	CKSRYB561K50

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

701-703	2P PIN JACK	AKB7017
CN701	13P SOCKET	AKP7070
CN751	10P SOCKET	KP200TA10L
JA721	1 PIN JACK	VKB1063

D S VIDEO ASSY

SEMICONDUCTORS

	IC881	LA7213
	IC801, IC802	NJM2595M
	IC851	PDC084B
	IC841	TC74HC4052AF
	IC831, IC842, IC871	TK15420M
	Q852, Q871, Q872	2SC4081
	Q881	UN5212
	D881, D882	1SS355
	D801, D802	DAN202K
	D851	DAP202K

COILS AND FILTERS

X851	CRYSTAL RESONATOR (14.32MHz)	ASS1056
	L851, L852	LCYA100J2520
	L853	LCYA330J2520

CAPACITORS

	C825, C826, C862	CCSRCH101J50
	C855	CCSRCH150J50
	C856	CCSRCH180J50
	C811-C814	CCSRCH181J50
	C857, C858	CCSRCH240J50
	C866	CCSRCH330J50
	C859	CCSRCH470J50
	C805-C808, C815-C820	CEAT101M16
	C831, C832, C843, C844	CEAT101M16
	C851, C852, C864, C871, C872	CEAT101M16
	C877, C881, C883	CEAT101M16
	C884	CEAT102M10
	C882	CEAT3R3M50
	C891-C894	CKSRYB103K50
	C801-C804, C809, C810, C878	CKSRYB104K25
	C829, C830	CKSRYB221K50
	C821-C824, C833, C834	CKSRYB473K25
	C841, C842, C845, C846	CKSRYB473K25
	C853, C854, C860, C861	CKSRYB473K25
	C873, C874	CKSRYB473K25

Mark No.	Description	Part No.

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

CN802	17P FFC CONNECTOR	52044-1745
CN811, CN812	4P MINI DIN SOCKET	AKP7043
CN851	15P SOCKET	AKP7071
CN801	17P SOCKET	AKP7072

E VIDEO SIDE ASSY

OTHERS

CN892	15P PLUG	AKP7060
CN891	10P PLUG	KM200TA10
CN893	6P PLUG	KM200TA6

F COMPONENT ASSY

SEMICONDUCTORS

	IC5001	NJM2586M
	IC5022	TA1270BF
	IC5021, IC5051, IC5052	TK15420M
	D5001, D5002, D5071	1SS355
	D5003	DAN202K

CAPACITORS

	C5033, C5034	CCSRCH120J50
	C5025, C5047-C5049	CEAT100M50
	C5010-C5013, C5021, C5022, C5027	CEAT101M16
	C5051-C5054, C5071	CEAT101M16
	C5030	CEAT101M35
	C5073	CEAT102M10
	C5037, C5039	CEAT2R2M50
	C5026	CKSRYB103K50
	C5028, C5029, C5031, C5032, C5038	CKSRYB104K25
	C5041-C5046	CKSRYB104K25
	C5035	CKSRYB222K50
	C5040	CKSRYB223K25
	C5036	CKSRYB224K10
	C5081-C5083	CKSRYB224K16
	C5014, C5015, C5023, C5024	CKSRYB473K25
	C5055-C5058	CKSRYB473K25

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

JA5001-JA5003	3P PIN JACK	AKB7124
X5022	CRYSTAL RESONATOR	ASS1091
X5021	CRYSTAL RESONATOR	ASS1092
X5023	CERAMIC RESONATOR	ASS7036
CN5051	6P SOCKET	KP200TA6L
CN5001	7P SOCKET	KP200TA7L
5001	PCB BINDER	VEF1040

L MAIN CONTROL ASSY

SEMICONDUCTORS

	IC381	BD3812F
	IC451	BD3813KS
	IC101	BD3841FS
	IC501	PD5957A8
	IC382	TC74HC4052AF

Mark No.	Description	Part No.
IC502		TC74VHC08FT
IC504		TC74VHCT125AFT
IC102-IC106, IC111, IC321, IC341		UPC4570G2-A
IC361, IC401		UPC4570G2-A
Q169, Q170, Q321-Q324		2SC3326
Q341-Q344, Q361-Q364		2SC3326
Q381-Q384		2SC3326
Q175, Q229, Q230		2SK208
Q502-Q505, Q516, Q517		DTA124EUA
Q386		DTC124EUA
Q511, Q512		DTC143EUA
Q501		DTC143TK
Q398, Q507, Q514, Q515		UMB1N
Q172, Q176, Q235, Q506		UMD2N
D175, D229, D230, D441, D442		1SS355
D451, D473, D501-D503		1SS355
D506-D512, D516-D518		1SS355
D474, D475		DAN202K
D191-D193		DAN217
D504, D505		DAP202K
D515		UDZS5R1(B)
D443, D444		UDZS6R8(B)

COILS AND FILTERS

X501 CERAMIC RESONATOR(15.7MHz)	ASS7032
L121, L475	ATL7002
L476	LFEA2R2J
L471-L474	QTL1013

CAPACITORS

C101-C120, C123-C128	CCSRCH101J50
C131, C132, C151, C152	CCSRCH101J50
C169, C170, C243, C244, C263	CCSRCH101J50
C283, C284, C325, C326	CCSRCH101J50
C345, C346, C365, C383, C384	CCSRCH101J50
C405, C406, C457, C458	CCSRCH101J50
C121, C122, C129, C130	CCSRCH220J50
C205-C208, C245-C248, C265	CCSRCH331J50
C267, C285-C288	CCSRCH331J50
C203, C204	CCSRCH471J50
C370	CEANP330M16
C133-C150, C161, C162	CEAT100M50
C209, C210, C213, C214	CEAT100M50
C249, C250, C269, C270	CEAT100M50
C289, C290, C451-C456, C517	CEAT100M50
C327, C328, C347, C348	CEAT101M16
C367, C368, C407, C408	CEAT101M16
C507	CEAT102M6R3
C181	CEAT221M6R3
C201, C202, C241, C242	CEAT2R2M50
C261, C262, C281, C282, C515	CEAT2R2M50
C501	CEAT331M10
C167, C168, C321, C322	CEAT470M25
C329, C330, C341, C342	CEAT470M25
C349, C350, C361, C362, C369	CEAT470M25
C401, C402, C409, C410	CEAT470M25
C443, C444	CEAT471M10
C323, C324, C343, C344	CEAT4R7M50
C363, C364, C387, C388	CEAT4R7M50
C403, C404	CEAT4R7M50
C506	CKSRYB102K50
C153, C154, C171, C172	CKSRYB103K50
C191-C193, C215, C216	CKSRYB103K50
C235, C236, C257, C258, C266	CKSRYB103K50
C277, C278, C297, C298	CKSRYB103K50
C331, C332, C351, C352	CKSRYB103K50
C371, C372, C381, C382	CKSRYB103K50
C385, C386, C391-C398	CKSRYB103K50
C411, C412, C441, C442	CKSRYB103K50
C465-C467, C471-C473, C476	CKSRYB103K50
C502, C508, C514, C551	CKSRYB103K50
C182, C237, C238, C459-C462	CKSRYB104K16
C573	CKSRYB104K16
C510	CKSRYB104K25
C503	CKSRYB105K10
C264	CKSRYB223K25
C431-C438	CKSRYB223K50
C572	CKSRYB224K16
C251, C252, C271, C272	CKSRYB472K50
C291, C292, C366, C463, C464	CKSRYB472K50
C509	CKSRYB472K50
C512, C513	CKSRYB473K16
C268	CKSRYB562K50
C475	PCH1132

RESISTORS

R441, R442	RS1LMF101J
Other Resistors	RS1/16S###J

OTHERS

CN501 10P FFC CONNECTOR	52045-1045
CN106, CN107 15P FFC CONNECTOR	52045-1545
CN101 26P FFC CONNECTOR	52045-2645
CN116-CN119 4P PIN JACK	AKB7015
CN103 21P PLUG	AKP7063
CN102, CN104, CN105 23P PLUG	AKP7064
CN111, CN112, CN115 23P SOCKET	AKP7178
CN108 KR CONNECTOR	B8B-PH-K
CN114 17P SOCKET	KP200TA17L
CN113 4P SOCKET	KP200TA4L
101, 102 PCB BINDER	VEF1040

X TRANS 2-1 ASSY

SEMICONDUCTORS

IC2201, IC2202	AEK7021
Q2203	RN1901
Q2204, Q2205	UMD2N
⚠D2216, D2217	1SR154-400
⚠D2201	S1WB(A)60SD
D2203-D2206	UDZS10(B)
D2207, D2208	UDZS12(B)
D2202, D2215	UDZS13(B)
D2209, D2210	UDZS7R5(B)
D2211-D2214	UDZS8R2(B)

CAPACITORS

C2202, C2203	ACE7037
C2215	CEANP470M50
C2209, C2210	CEAT101M63
C2213, C2214	CEAT221M63
C2216	CEAT470M50

Mark	No.	Description	Part No.
	C2207, C2208		CEAT471M2A
	RESISTORS		
A	⚠	R2207, R2208	RD1/2LMF332J
	⚠	R2202, R2203	RD1/4MUF4R7J
		R2210	RD1/4MUF681J
	⚠	R2205, R2206	RS1LMF472J
		Other Resistors	RS1/16S###J
	OTHERS		
	CN2202	4P JUMPER CONNECTOR	52147-0410
	CN2202	5P JUMPER CONNECTOR	52147-0510
	CN2205	6P JUMPER CONNECTOR	52147-0610
	H2201-H2204	FUSE CLIP	AKR7001
B	**AB SP/PS ASSY**		
	SEMICONDUCTORS		
	Q2001-Q2005		DTC114TUA
	D2001-D2010		1SS355
	COILS AND FILTERS		
	L2001-L2007		ATH1053
	SWITCHES AND RELAYS		
	RY2001-RY2005		XSR3002
C	**CAPACITORS**		
	C2051, C2052		ACH7218
	C2023		CEAT101M50
	C2001-C2014		CFTLA224J50
	C2025-C2029		CKSRYB102K50
	C2015-C2019, C2021, C2022		CQMBA103J50
	RESISTORS		
	R2051, R2052		RD1/4MUF473J
	⚠	R2008-R2014	RS1/2LMF4R7J
	⚠	R2001-R2007	RS1LMF2R2J
	⚠	R2015, R2016	RS2LMF331J
D	**OTHERS**		
	2005	4P CABLE HOLDER	51048-0400
	CN2004	12P FFC CONNECTOR	52045-1245
	CN2113	6P SPEAKER TERMINAL	AKE7107
	CN2114, CN2115	4P SPEAKER TERMINAL	AKE7109
	CN2003, CN2006	5P PLUG	KM200TA5
	CN2002	3P POST HEDDER	AKC7002
	CN2001	4P POST HEDDER	AKC7003
	CN2102	2P POST HEDDER	AKC7005
	CN2101	2P POST HEDDER	AKC7008
E	CN2103	2P POST HEDDER	AKC7009
	CN2104	2P POST HEDDER	AKC7010
	Z DIODE ASSY		
	SEMICONDUCTORS		
	⚠	D2241, D2242	D5SBA20(B)
	O DISPLAY ASSY		
F	**SEMICONDUCTORS**		
	IC3001		PE5403A
	IC3002		RPM7140-H9
	IC3003		TC7W53FU
	Q3001		2SA1576A

Mark	No.	Description	Part No.
	Q3002, Q3003, Q3005		DTC124EUA
	Q3004		FMA1A
	D3002-D3009		1SS355
	D3001		DAN202K
	D3010		SLI-343DCW(STU)
	COILS AND FILTERS		
	L3001		LFEA2R2J
	X3001	CERAMIC RESONATOR(5MHz)	VSS1142
	SWITCHES AND RELAYS		
	S3001-S3016		VSG1024
	CAPACITORS		
	C3103-C3105		CCSRCH471J50
	C3007		CEAT101M6R3
	C3003		CEAT221M6R3
	C3018		CEAT470M50
	C3019-C3022		CKSRYB102K50
	C3001, C3002, C3006, C3008		CKSRYB103K50
	C3016, C3017, C3032		CKSRYB103K50
	C3011, C3012		CKSRYB104K25
	C3009		CKSRYB153K50
	C3106		XCH3011
	RESISTORS		
	⚠	R3056	RS1/16S104J
		Other Resistors	RS1/16S###J
	OTHERS		
	3002	4P CABLE HOLDER	51063-0405
	3001	5P CABLE HOLDER	51063-0505
	CN3001	26P FFC CONNECTOR	52045-2645
	V3001	FL TUBE	AAV7099
	3003	FL HOLDER	VNF1096
	N VOLUME ASSY		
	SWITCHES AND RELAYS		
	S3201		ASX7004
	S3202-S3209		VSG1024
	CAPACITORS		
	C3201, C3202		CKSRYB103K50
	RESISTORS		
	All Resistors		RS1/16S###J
	OTHERS		
	3201	5P CABLE HOLDER	51063-0505
	P MULTI JOG ASSY		
	SWITCHES AND RELAYS		
	S3251		ASX7031
	S3252-S3254		VSG1024
	CAPACITORS		
	C3251, C3252		CKSRYB103K50
	RESISTORS		
	Other Resistors		RS1/16S###J
	OTHERS		
	3251	4P CABLE HOLDER	51063-0405

Mark No.	Description	Part No.

H HEADPHONE ASSY

CAPACITORS

	C3303	CCSRCH471J50
	C3304	CKSRYB103K50
	C3305	CKSRYB104K25
	C3301, C3302	CKSRYB392K50

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

CN3301	4P JUMPER CONNECTOR	52147-0410
3301	PHONE JACK	AKN7029
KN3301	WRAPPING TERMINAL	VNF1084

I FRONT-IN ASSY

SEMICONDUCTORS

	IC3351	UPC4570G2-A
	Q3351	HN1C01FU
	D3354	DAN217
	D3351-D3353	UDZS5R1(B)

COILS AND FILTERS

	L3353	QTL1013

CAPACITORS

	C3353, C3385, C3386	CCSRCH101J50
	C3381, C3382	CCSRCH221J50
	C3354	CCSRCH330J50
	C3351	CCSRCH471J50
	C3352, C3355, C3357, C3361, C3362	CEAT100M50
	C3391, C3392	CEAT330M25
	C3372, C3373	CEAT470M25
	C3383, C3384, C3387, C3388	CEJQ100M16
	C3396	CKSRYB102K50
	C3359, C3360, C3365, C3376	CKSRYB103K50
	C3389, C3390, C3394	CKSRYB103K50
	C3366, C3367, C3371, C3378, C3395	CKSRYB104K25

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

CN3351	15P PLUG	AKP7060
JA3352	FRONT AV INPUT	AKX7019
JA3351	REMOTE CONTROL JACK	RKN1004
KN3351, KN3352	WRAPPING TERMINAL	VNF1084

AF PRIMARY ASSY

SEMICONDUCTORS

⚠	IC1001	NJM78M56FA
	Q1001	DTC143EUA
	D1002, D1004, D1005	1SS355
⚠	D1001	S1WB(A)60SD
	D1003	UDZS5R1(B)

COILS AND FILTERS

⚠	L1001 LINE FILTER	XTF3004

TRANSFORMERS

⚠	T1001	ATT7043

SWITCHES AND RELAYS

⚠	RY1001	XSR3003

CAPACITORS

⚠	C1002, C1003 (0.01 uF/275V)	ACE7013
	C1008	CEAT102M25
	C1009	CEAT221M25
	C1004	CQMBA103J50

RESISTORS

⚠	R1001 (2.2M ohm, 1/2W)	RCN1080
	R1002	RD1/2VM221J
	Other Resistors	RS1/16S###J

OTHERS

⚠	1004 1P AC OUTLET	AKP1033
	H1001, H1002 FUSE CLIP	AKR7001
	CN1002, CN1003 5P SOCKET	KP200TA5L
⚠	CN1001 AC CORD SOCKET	RKP1751
	1003 SCREW PLATE	VNE1948
	KN1001 WRAPPING TERMINAL	VNF1084

G OPTICAL-IN ASSY

COILS AND FILTERS

	L961	QTL1013

CAPACITORS

	C964	CEAT470M16
	C968	CKSRYB104K25
	C961-C963, C965	CKSRYF104Z25

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

CN961	CONNECTOR	CKS3824
JA961, JA962	OPTICAL LINK IN	GP1FA513RZ
JA963	OPTICAL LINK OUT	GP1FA513TZ
961	SCREW PLATE	VNE1948

AC REAR TOP ASSY

SEMICONDUCTORS

	Q951	2SD1858X
	D951, D953	1SS355
	D952	UDZS10(B)

COILS AND FILTERS

	L951-L955	QTL1013

CAPACITORS

	C956	CEAT101M16
	C957	CKSRYB103K50
	C953, C958	CKSRYB104K25

RESISTORS

	Other Resistors	RS1/16S###J

OTHERS

CN955	12P FFC CONNECTOR	52044-1245
CN953	17P FFC CONNECTOR	52044-1745

Mark	No.	Description	Part No.
	CN954	11P FFC CONNECTOR	52045-1145
	CN951, CN952	23P SOCKET	AKP7075
	951	SCREW PLATE	VNE1948
	JA951, JA952	4P MINI JACK + SW	XKN3015

J FRONT-IN CONNECT ASSY

CAPACITORS

	C3341, C3342	CKSRYB104K25

OTHERS

	CN3342 15P FFC CONNECTOR	52045-1545
	CN3341 15P SOCKET	AKP7071
	KN3341 WRAPPING TERMINAL	VNF1084

AD TRANS SIDE ASSY

OTHERS

	2302 4P CABLE HOLDER	51048-0400
	2303 7P CABLE HOLDER	51048-0700
	CN2304 4P JUMPER CONNECTOR	52147-0410
	CN2302 7P JUMPER CONNECTOR	52147-0710

Y TRANS 2-2 ASSY

SEMICONDUCTORS

⚠	IC2253	AEK7018
⚠	IC2251, IC2252	AEK7022

CAPACITORS

	C2251-C2253	CQMBA104J50

RESISTORS

⚠	R2251	RD1/4MUF100J
⚠	R2252	RD1/4MUF4R7J

OTHERS

	2250 7P CABLE HOLDER	51048-0700

K 12V TRIGGER ASSY (52TX Only)

SEMICONDUCTORS

⚠	IC982	NJM78M12FA
	IC981	SP232AEN
	Q984	2SA1037K
	Q983	2SB1188
	Q991	2SC1740S
	Q982	DTC124EUA
	D981, D991, D992	1SS355
	D982	UDZS5R1(B)

COILS AND FILTERS

	L992	LAU1R0J

CAPACITORS

	C998	CCSRCH331J50
	C983	CEAT100M50
	C991	CEAT101M16
	C993-C996	CEAT1R0M50
	C989	CEATR10M50
	C981, C982, C984-C986, C992	CKSRYB103K50
	C997	CKSRYB103K50

Mark	No.	Description	Part No.

RESISTORS

	Aii Resistors	RS1/16S###J

OTHERS

	CN983 9P D-SUB SOCKET	AKP1213
	CN982 KR CONNECTOR	B8B-PH-K
	CN981 4P SOCKET	KP200TA4L
	JA981, JA983 REMOTE CONTROL JACK	RKN1004
	JA982 REMOTE CONTROL JACK	RKN1026
	981 SCREW PLATE	VNE1948

U POWER AMP-R ASSY

SEMICONDUCTORS

⚠	IC4151, IC4251, IC4351	PA9010A
⚠	IC4152, IC4252, IC4352, IC4452	PBD001A
⚠	IC4153, IC4253, IC4353	PBD002A
	Q4152, Q4252, Q4352	2SA1255
	Q4151, Q4251, Q4351	2SC3326
	Q4403, Q4404	2SC4081
	D4152, D4154-D4158, D4252	1SS355
	D4254-D4258, D4352, D4354-D4358	1SS355
	D4151, D4153, D4251, D4253, D4351	UDZS10(B)
	D4353	UDZS10(B)

CAPACITORS

	C4156, C4157, C4256, C4257	ACG7041
	C4356, C4357	ACG7041
	C4152, C4252, C4352	CCSRCH221J50
	C4162, C4163, C4262, C4263	CCSRCH6R0D50
	C4362, C4363	CCSRCH6R0D50
	C4164, C4264, C4364	CEANP2R2M50
	C4405	CEAT331M10
	C4403, C4404	CEAT331M2A
	C4160, C4161, C4260, C4261	CEHAT100M2A
	C4360, C4361	CEHAT100M2A
	C4151, C4251, C4351	CEHAT100M50
	C4153, C4253, C4353	CEHAT331M10
	C4158, C4159, C4258, C4259	CEHAT470M25
	C4358, C4359	CEHAT470M25
	C4154, C4155, C4254, C4255	CEHAT470M63
	C4354, C4355	CEHAT470M63

RESISTORS

⚠	R4169, R4269, R4369	ACN7121
⚠	R4181, R4182, R4281, R4282	ACN7132
⚠	R4381, R4382, R4481	ACN7132
	R4574	RD1/2VM1R0J
	R4155, R4255, R4355	RN1/10SE1201D
	R4162, R4262, R4362	RN1/10SE3302D
	Other Resistors	RS1/16S###J

OTHERS

	CN4552 11P SOCKET	AKP7069
	CN4551 13P SOCKET	AKP7070
	CN4553 2P CONNECTOR	B02B-XASK-1
	CN4452 6P PLUG	KM250NA6L
	KN4403, KN4404 WRAPPING TERMINAL	VNF1084
	J4152- J4154 JUMPER WIRE 58	ADB7021
	J4151, J4155 JUMPER WIRE 70	ADB7022

Mark No.	Description	Part No.

Q POWER AMP IN ASSY

SEMICONDUCTORS

	IC4451	PA9010A
	Q4452	2SA1255
	Q4451	2SC3326
	D4453-D4458	1SS355
	D4451, D4452	UDZS10(B)

CAPACITORS

	C4456, C4457	ACG7041
	C4452	CCSRCH221J50
	C4462, C4463	CCSRCH6R0D50
	C4464	CEANP2R2M50
	C4460, C4461	CEHAT100M2A
	C4451	CEHAT100M50
	C4453	CEHAT331M10
	C4458, C4459	CEHAT470M25
	C4454, C4455	CEHAT470M63

RESISTORS

	R4469 (0.18 ohm/5W)	ACN7121
	R4455	RN1/10SE1201D
	R4462	RN1/10SE3302D
	Other Resistors	RS1/16S###J

OTHERS

	4001 5P CABLE HOLDER	51048-0500
	CN4003 18P FFC CONNECTOR	52044-1845
	CN4001, CN4002 13P PLUG	AKP7059
	CN4401, CN4451 6P SOCKET	KP250NA6

R POWER PROTECT ASSY

SEMICONDUCTORS

	IC4051	NJM4558MD
	Q4051	2SC4081
	Q4052	UMB1N
	Q4054	UMH1N
	D4051, D4502	1SS355

CAPACITORS

	C4054, C4055	CKSRYB103K50
	C4052, C4053	CKSRYB104K25
	C4051	CKSRYB223K50

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

	CN4053 15P FFC CONNECTOR	52044-1545
	CN4051, CN4052 11P PLUG	AKP7058

S POWER AMP-L ASSY

SEMICONDUCTORS

⚠	IC4101, IC4201, IC4301	PA9010A
⚠	IC4102, IC4202, IC4302	PBD001A
⚠	IC4103, IC4203, IC4303, IC4453	PBD002A
	Q4102, Q4202, Q4302	2SA1255
	Q4101, Q4201, Q4301	2SC3326
	D4102, D4104-D4108, D4202	1SS355
	D4204-D4208, D4302, D4304-D4308	1SS355
	D4101, D4103, D4201, D4203, D4301	UDZS10(B)
	D4303	UDZS10(B)

CAPACITORS

	C4106, C4107, C4206, C4207	ACG7041
	C4306, C4307 (220uF/100v)	ACG7041
	C4102, C4202, C4302	CCSRCH221J50
	C4112, C4113, C4212, C4213	CCSRCH6R0D50
	C4312, C4313	CCSRCH6R0D50
	C4114, C4214, C4314	CEANP2R2M50
	C4401, C4402	CEAT331M2A
	C4110, C4111, C4210, C4211	CEHAT100M2A
	C4310, C4311	CEHAT100M2A
	C4101, C4201, C4301	CEHAT100M50
	C4103, C4203, C4303	CEHAT331M10
	C4108, C4109, C4208, C4209	CEHAT470M25
	C4308, C4309	CEHAT470M25
	C4104, C4105, C4204, C4205	CEHAT470M63
	C4304, C4305	CEHAT470M63

RESISTORS

⚠	R4119, R4219, R4319 (0.18 ohm/5W)	ACN7121
⚠	R4131, R4132, R4231, R4232	ACN7132
⚠	R4331, R4332, R4482 (0.047 ohm)	ACN7132
	R4573	RD1/2VM1R0J
	R4105, R4205, R4305	RN1/10SE1201D
	R4112, R4212, R4312	RN1/10SE3302D
	Other Resistors	RS1/16S###J

OTHERS

	CN4502 11P SOCKET	AKP7069
	CN4501 13P SOCKET	AKP7070
	CN4504 2P CONNECTOR	B02B-XASK-1
	CN4402 6P PLUG	KM250NA6L
	KN4401, KN4402 WRAPPING TERMINAL	VNF1084
	J4101, J4105 JUMPER WIRE 58	ADB7021
	J4102- J4103 JUMPER WIRE 70	ADB7022

AA VH TR ASSY

SEMICONDUCTORS

⚠	Q2231	2SA1514K
⚠	Q2233	2SA1837D1
⚠	Q2232	2SC3906K
⚠	Q2234	2SC4793D1
⚠	D2231, D2232	1SR154-400

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

	2205 6P CABLE HOLDER	51048-0600

M DSP ASSY

SEMICONDUCTORS

	IC601	AK4114VQ
	IC701	AK4628VQE
	IC801	DSPA56371AF180
⚠	IC902	LM1117DT-ADJ
⚠	IC901	NJM2391DL1-33
	IC851	PDL018A8
	IC501	TC74HCU04AF
	IC551	TC74VHC157FT

Mark	No.	Description	Part No.
	IC952		TC74VHCT244AFT
	IC871		TC7WH125FU
	IC951		TC7WH34FU
	IC802		TC7WU04FU
	Q551		UMD2N
	Q801		UN5212
	D553, D702		DAN202K
	D551, D701		DAP202K
	D901, D902		UDZS5R6(B)

COILS AND FILTERS

L802, L803, L901-L903		ATL7002
CHIP FERRITE BEAD		
L501-L503, L551, L601, L602		QTL1013
L605, L701, L702, L801, L804		QTL1013
CHIP SOLID INDUCTOR		
L851, L871, L951, L952		QTL1013
X801	CRYSTAL RESONATOR (20MHz)	VSS1171
X601	CRYSTAL RESONATOR (24.576MHz)	XSS3003

CAPACITORS

C612, C613	CCSRCH100D50
C705	CCSRCH101J50
C505, C506	CCSRCH470J50
C511, C552, C605, C608, C620	CCSRCH471J50
C702, C707-C714, C717, C801	CCSRCH471J50
C803, C805, C807, C809, C814	CCSRCH471J50
C818, C821, C823, C826, C828	CCSRCH471J50
C830, C832, C851, C871, C916	CCSRCH471J50
C919, C951, C954	CCSRCH471J50
C816, C817	CCSRCH8R0D50
C953, C956	CEVW100M16
C513, C703, C715, C834, C835	CEVW101M16
C908, C909	CEVW101M16
C607, C618, C718	CEVW470M6R3
C617	CKSRYB102K50
C503, C504, C556, C701, C820	CKSRYB103K50
C825, C917, C920	CKSRYB103K50
C551, C553-C555, C557, C606	CKSRYB104K16
C609, C614, C619, C704, C706	CKSRYB104K16
C716, C720, C802, C804, C806	CKSRYB104K16
C808, C810, C815, C819, C822	CKSRYB104K16
C824, C827, C829, C831, C833	CKSRYB104K16
C852, C872, C907, C918, C952	CKSRYB104K16
C955	CKSRYB104K16
C512	CKSRYB105K6R3
C621	CKSRYB474K10

RESISTORS

R802	RAB4C101J
R962, R970	RAB4C104J
R628	RS1/16S1802F
Other Resistors	RS1/16S###J

OTHERS

JA501	2P PIN JACK	AKB7131
CN901	15P SOCKET	AKP7071
CN701	19P SOCKET	AKP7073
CN951	23P SOCKET	AKP7075
CN601	10P FFC CONNECTOR	VKN1414
CN551	22P FFC CONNECTOR	VKN1426

V POSI 1 R ASSY

OTHERS

J4551	ADX7471
⚠TH4503	PTFM04BD222Q2N34B0

T POSI 1 L ASSY

OTHERS

J4501	ADX7471
⚠TH4501	PTFM04BD222Q2N34B0

FM/AM TUNER UNIT

FM/AM TUNER UNIT has no service part.

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 PROTECTION CIRCUIT CONTROL SPECIFICATION

Microcomputer-related ports

DC_PROT (pin 74 of IC501: MAIN CONTROL Assy)
Input port : For DC detection
OL_DET (pin 73 of IC501: MAIN CONTROL Assy)
Input port : To detect overloading at the amplifier
(Interrupt port)

FAN_STOP (pin 92 of IC501: MAIN CONTROL Assy)
Input port : To detect Fan forced stop
FAN_DRIVE (pin 91 of IC501: MAIN CONTROL Assy)
: For Fan on/off
TEMP2 (pin 44 of IC3001: DISPLAY Assy)
Input port : To detect temperature
12V_DET (pin 41 of IC3001: DISPLAY Assy)
Input port : To detect 12V trigger

The following control processes are activated immediately before the relay system is turned on upon power-on. The time is 4.8 seconds after power-on. (Control of the relay system is enabled 5.2 seconds after power-on.)
Only DC detection is enabled 2 seconds after power-on to activate it before other protection functions.

① DC detection (defect detection)

Only DC detection is enabled 2 seconds after power-on.
If there is a fault in the power amplifier or a high-level signal lower than5 Hz is input, the DC_PROT port becomes "L"
Detecting "L" the microcomputer performs the following operations:

1. System muting on
2. Speaker relay off (Control with the display microcomputer)

The warning indication "AMP ERR" appears on the FL display.

If this status continues for more than 3 seconds, the power is turned off (for Standby mode).
Do not accept the key input afterward.
(Flash it always till turns the primary side off.)
If the port becomes "H" within 3 seconds, the unit resets automatically.

DC_PROT port performs the chattering check for 1 msec.
In addition, there is the case that detection delays for maximum 20 msec because performs monitor of DC_PROT port with a main loop.
Even if turns the primary side off and turns on once again.
If detects DC once and turned the power off, do not accept the key input afterward.
However, power on is possible when the following key was pressed to be able to key input in the protection line and service.

1. Test mode (remote control code : A55F)
2. When the STEREO/DIRECT key and SIGNAL SELECT key are both held pressed for 2 seconds.
   (Be effective when turned the power off by DC detection regarding 2.)

② Overload detection (abnormality detection)

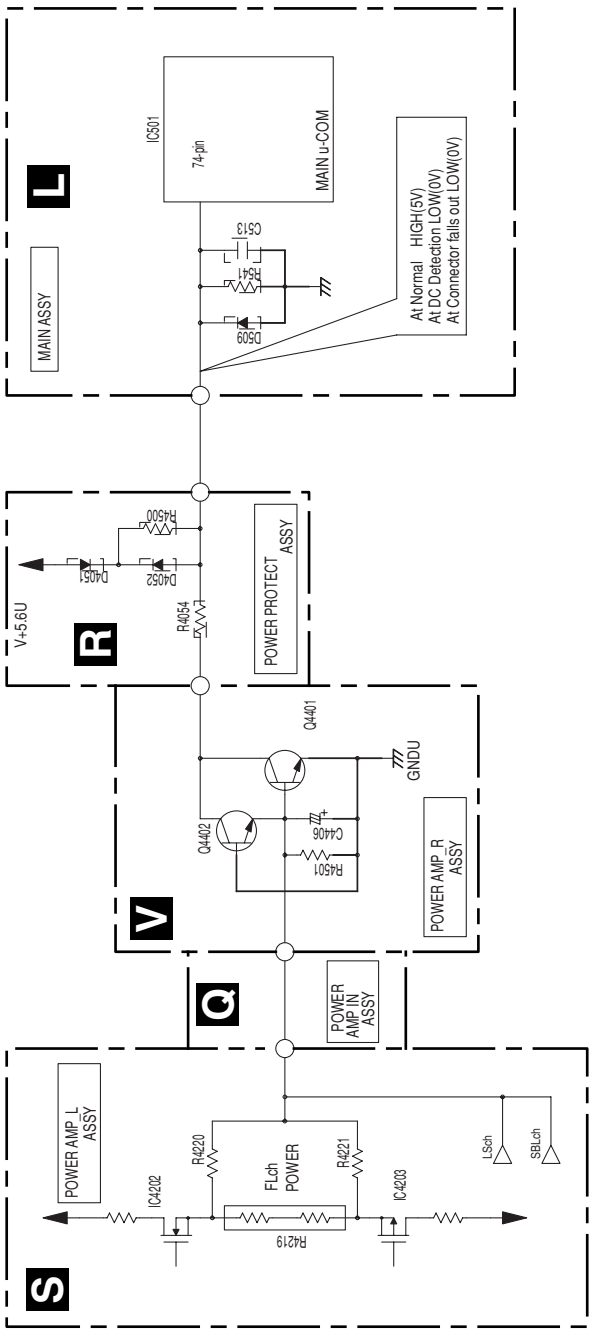
If the speaker terminals are short-circuited or low-load driving is detected, the OL_DET port becomes "L"
Detecting "L" edge interrupt in an interrupt process, the microcomputer performs the following operations:

1. System muting on
2. Speaker relay off (Control with the display microcomputer)
3. Power off (Standby mode)

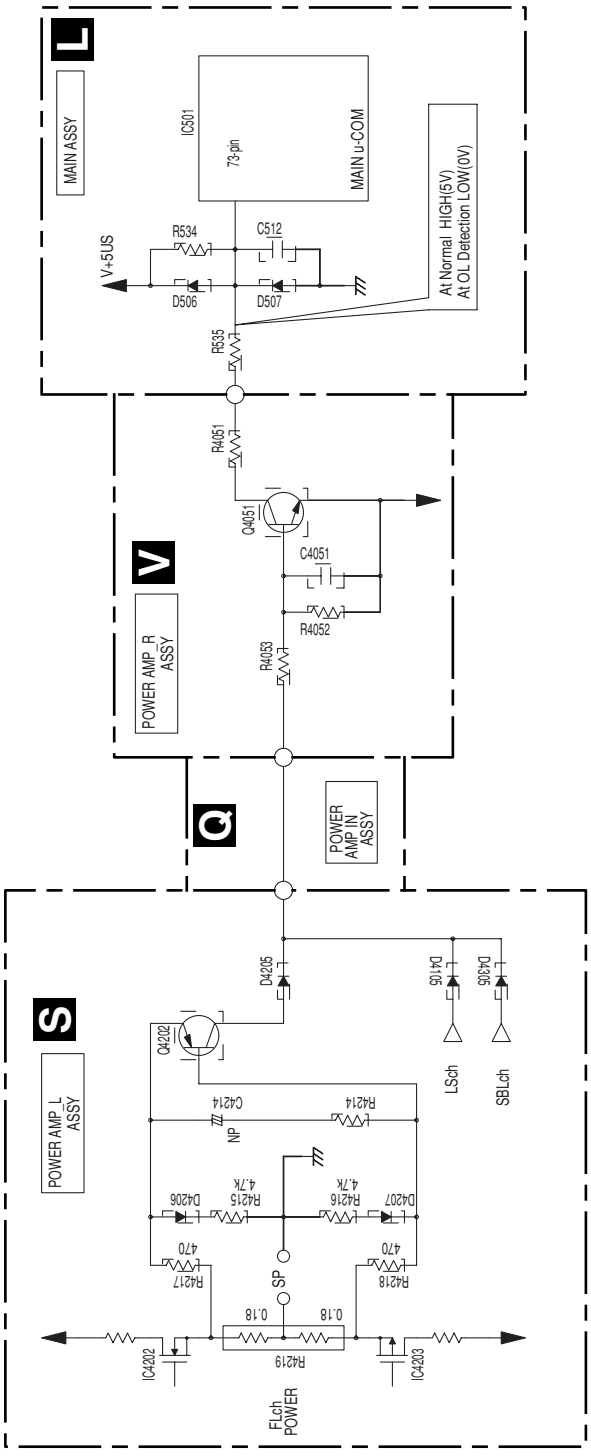
● Protection Process List

Item	Detection Method	Process	Warning Indication	Remarks
DC detection	Detects when the DC_PROT port becomes "L".	Turns muting on and speaker relay off, then turns off the power after 3 seconds.	Flashing "AMP ERR" for 3 seconds.	If the power is turned off, flashes the MCACC LED. Do not accept the POWER key. If the DC_DET port becomes "H" within 3 seconds, the unit resets automatically.
Overload detection	Detects when the OL_DET port becomes "L" (checks by interrupt).	Turns muting on and speaker relay off, and immediately turns off the power.	None	
Thermal shut down	Detects when the TEMP2 port becomes "H".	Turns muting on and speaker relay off, then turns off the power after 3 seconds.	Flashing "OVERHEST" for 3 seconds	If the TEMP2 port becomes "L" within 3 seconds, the unit resets automatically. After the power off, the key input is possible once again.
12V trigger short detection	Detects when the 12V_DET port becomes "H".	Turns 12V_TRG port to "L", then turns off the the 12V output.	Flashing "12V TRI ERR"	Only a fan that is assigned 12V TRIG is valid. Release the FL indication with the power on/off.

• DC Detection circuit



• Overload Detection circuit



7.1.2 HOW TO DIAGNOSE THE AMPLIFIER SECTION

When DC detection worked (STBY IND. flashes for a long time) in the protection circuit of foregoing section (or there is not the speaker output, probably only 1CH), failure (damage) of the power amplifier section is considered.

Because this receiver cannot diagnose the amplifier section by an electricity state by structure, please diagnose it in the following steps.

Caution:
When release the STBY (flashes) state before repair, Because there is the case that the damage progresses when turns the power on once again, please be careful.

- According to a symptom, perform the following confirmation beforehand.

1. Are not Fuse and IC protector opening it?

2-a. When can turn on electricity, confirm that supply voltage of the point that can measure is appropriate.

2-b. Furthermore, confirm that voltage ((in a no signal) DC and the appropriate signal output) between GND and R2008-R2014 on the SP/PS Assy (Either of the amplifier side and the speaker terminal side is possible) (Or remove either of CN2101-2104) on the SP/PS Assy. And limit failure CH.

If was able to limit failure CH, diagnose the CH in the following steps.

• Use the tester basically and check that each part is not damaged (resistance value / open / short circuit).

About parts with damaged possibility, explain FL ch to an example in order.

1. R4131, R4132 (ACN7132: 0.047 Ω, 0.5W chip drain resistor)
   IC 4102, IC4103 (PBD001A: Nch, PBD002A: Pch output POWER MOS Tr.) /POWER AMP-L Assy

2. R4119 (ACN7121: 0.18 Ω .5W ×2 cement source resistor)
   R4117, R4118 (RS1/16S471J: 470 Ω chip resistor for protection circuit)
   D4101, D4103 (UDZS10B: 10V Zener diode for current limiting)
   D4102, D4104 (1SS355: Small signal diodes same as above)
   R4110, R4111 (RS1/16S560J: 56 Ω chip gate resistor)
   R4106, R4107 (RS1/16S101J:100 Ω chip IC4101 power filter resistor) /POWER AMP-L Assy

3. IC4101 (PA9010A: Power amplifier with output current bias Voltage step HIC) /POWER AMP-L Assy

4. Q2231 (2SA1514K) /VH TR Assy
   Q2232 (2SC3906K) /VH TR Assy
   Q2233 (2SA1837D1) /VH TR Assy
   Q2234 (2SC4793D1) /VH TR Assy

7.1.3 HOW TO DIAGNOSE THE UNIT WITH THE POWER AMPLIFIER SECTION REMOVED

Purpose:

When repairing this unit, the large Heat Sink Block obstructs access to some Assys.
If the Heat Sink Block is removed, as the posistor mounted on it is also disconnected, the protection circuit is activated, which disables failure diagnosis of these Assys while the unit is powered. With the method explained here, the Assys that cannot be diagnosed while the unit is powered because of the Heat Sink Block can be diagnosed by creating an artificial status of the posistor's being connected (by connecting a 100-ohm resistor under normal temperature).

Note: Use this method for diagnosing a failure other than possible failures inside the Heat Sink Block, such as those shown in the table below:

Symptoms that are highly suspected to be failures inside the Heat Sink Block	Possible causes
① No power with the STBY LED flashing	DC detection has been activated to prevent further damage to the unit. Note: Refer to "7.1.2 How to diagnose the Amplifier Section" in the service manual.
② The unit turns itself off after "AMP ERR" was displayed on the FL display. Then it goes into state ① above.	
③ "OVERHEAT" is displayed on the FL display under normal temperature, then the unit turns itself off.	The peripheral circuits of the posistor inside the Power Amplifier Section are in failure. Note: A posistor is a kind of thermistor, and its resistance is approx. 100 ohms at normal room temperature.
④ The unit turns itself off without any indication on the FL	Overloaded amplifier, failure in the overload-detection circuit inside the Power Amplifier Section, etc.
⑤ "FAN STOP" is displayed on the FL display, then the unit turns itself off.	Disconnection of the Fan connector, failure in the fan. (Only for the models for Europe and those for other than North America and Japan)

Procedures:

① Remove the bonnet and center beam.

② Remove all the wires from the wire saddle.

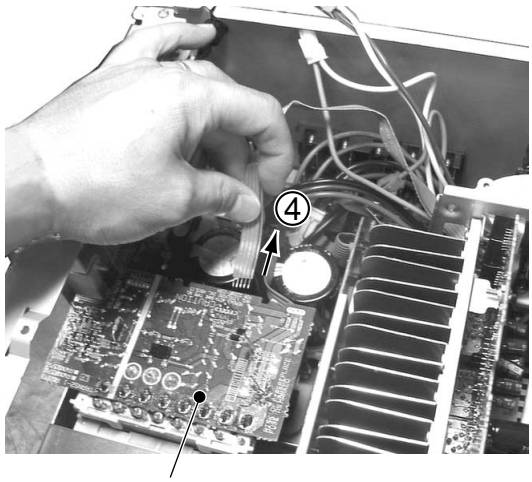
③ Disconnect all six connectors connected between the Amplifier Assy and the SP/PS Assy.

• Remove the wires.

④ Disconnect the parallel wires from the connector CN2201. (If the wires are not easily disconnected, disconnect them with the connector attached, using a vacuum desoldering tool.)

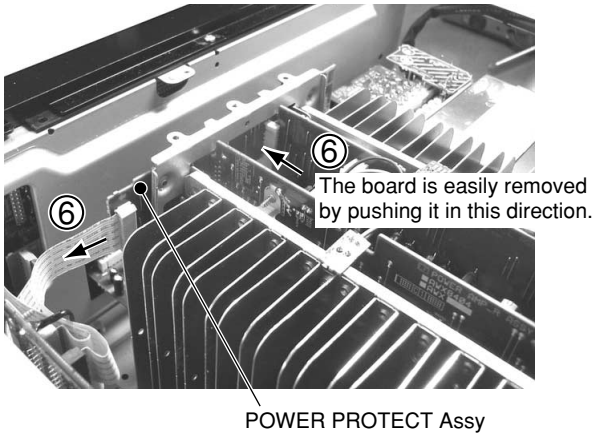
⑤ Remove the eight screws that secure the Amplifier section.

• Disconnect the parallel wires.



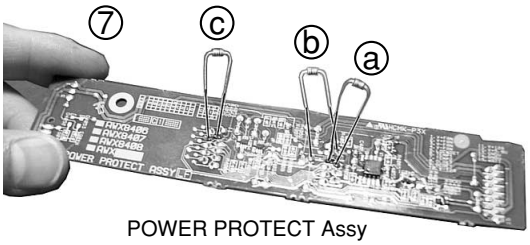
⑥ Remove the Power Amplifier, leaving the POWER PROTECT Assy intact.
- In this case, you can easily remove the Power Amplifier if the FFC cable connecting the POWER PROTECT Assy and the MAIN CONTROL Assy has been disconnected on either side.
- When removing the POWER PROTECT Assy, pull out the Assy while pushing on the board at the center from the rear side, for easier removal with less stress on the connector.

• Remove the POWER PROTECT Assy.



⑦ Jump with 100-ohm resistors in the following three places on the POWER PROTECT Assy:
ⓐ Between Pin 4 and Pin 5 of CN4052
ⓑ Between Pin 5 and Pin 6 of CN4052
ⓒ Between Pin 8 and Pin 9 of CN4051

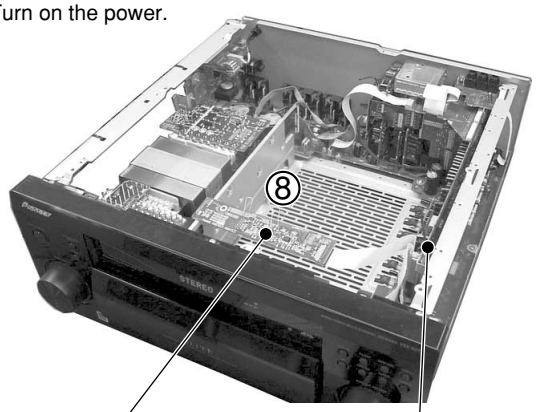
• Jump with resistors.



POWER PROTECT Assy

⑧ Secure the POWER PROTECT Assy so that it will not come into contact with metallic parts of the unit, such as the chassis. Then connect the POWER PROTECT Assy with the MAIN CONTROL Assy using an FFC cable and turn on the power. The unit will be turned on without the protection circuit activated.

• Turn on the power.



POWER PROTECT Assy MAIN CONTROL Assy

⑨ After finishing diagnoses, remove the three resistors inserted in Step ⑦, and before returning the Power Amplifier to its original position, discharge the electrolytic capacitors in the places shown in the table below.

- If connection is made without discharging the electrolytic capacitors, the resistors may be damaged by a surge of current.
- Discharge the electrolytic capacitor using a resistor, not by short-circuiting it. Using a tester, etc., completely discharge it until there is no remaining voltage.

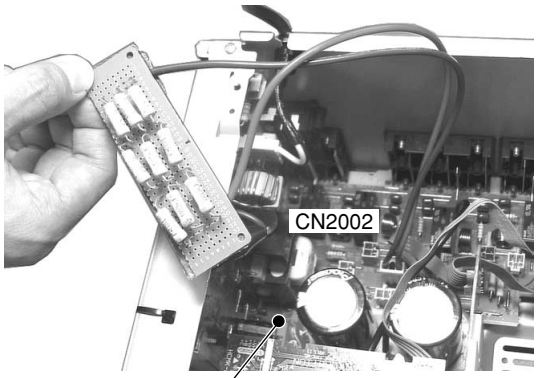
Places to be discharged	Discharging methods
SP/PS Assy: C2051, C2052	Jump with a discharging resistor in CN2002 of the SP/PS Assy. (Photo 1)
POWER AMP L Assy: C4401, C4402	Jump with a discharging resistor on the connector side of CN2002 of the POWER AMP-L Assy. (Photo 2)
POWER AMP R Assy: C4403, C4404	While you still have CN2002 of the SP/PS Assy jumped with a discharging resistor, reconnect the connector to CN2001 of the SP/PS Assy. (Photo 2)
TRANS 2-1 Assy: C2213, C2214	Jump between each capacitor and ground. (Photos 3 and 4)

● Discharging resistors

In a case when one resistor is used

Wattage (W)	3	2	1
Recommended constant to be used (ohms)	3300	4700	10000
Miscellaneous			
Three-wire lead	ADX7404		
Three-core connector	RKP1751		

Photo 1: Discharging ±VL (SP/PS Assy: C2051, C2052)



• Discharging resistors

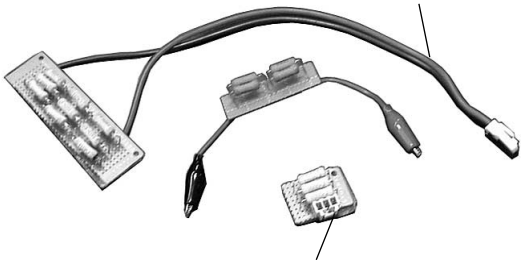


Photo 2: Discharging ±VL inside the POWER AMP-L and R Assys
Discharging of C4403 and C4404 of the POWER AMP-R Assy is also possible by reconnecting the connector to CN2001 of the POWER AMP-R Assy while keeping the discharging resistor connected to CN2002 of the SP/PS Assy connected.

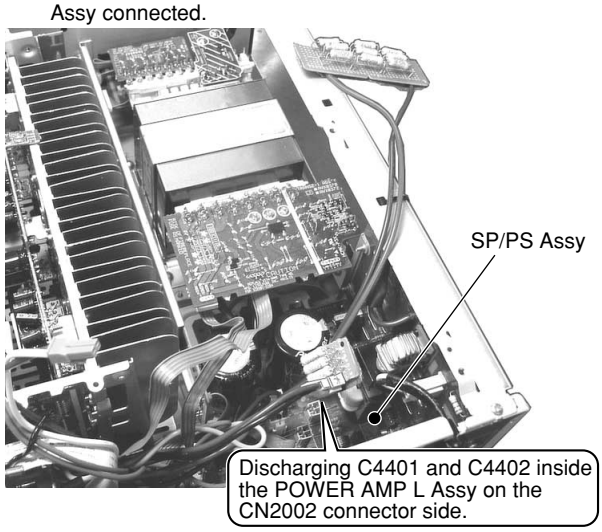


Photo 3: Discharging +VH (TRANS 2-1 Assy: C2213)

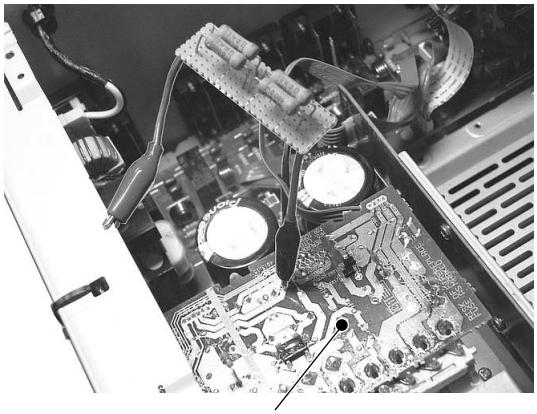
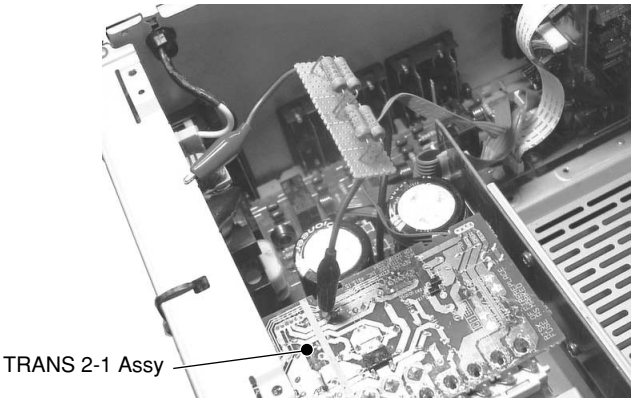


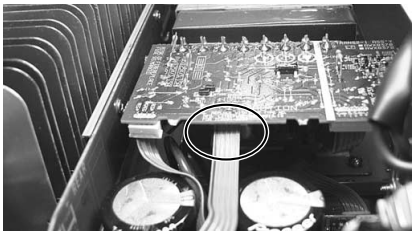
Photo 4: Discharging -VH (TRANS 2-1 Assy: C2214)



⑩ Reassemble the unit by following Steps ①-⑤ in reverse.

• When reconnecting the parallel wires to the connectors or reinserting the connectors, be careful of the direction. If a wire is connected to the wrong side of the connector, or if the five wires are not connected correctly, the resistors may be damaged.

• Direction of wires

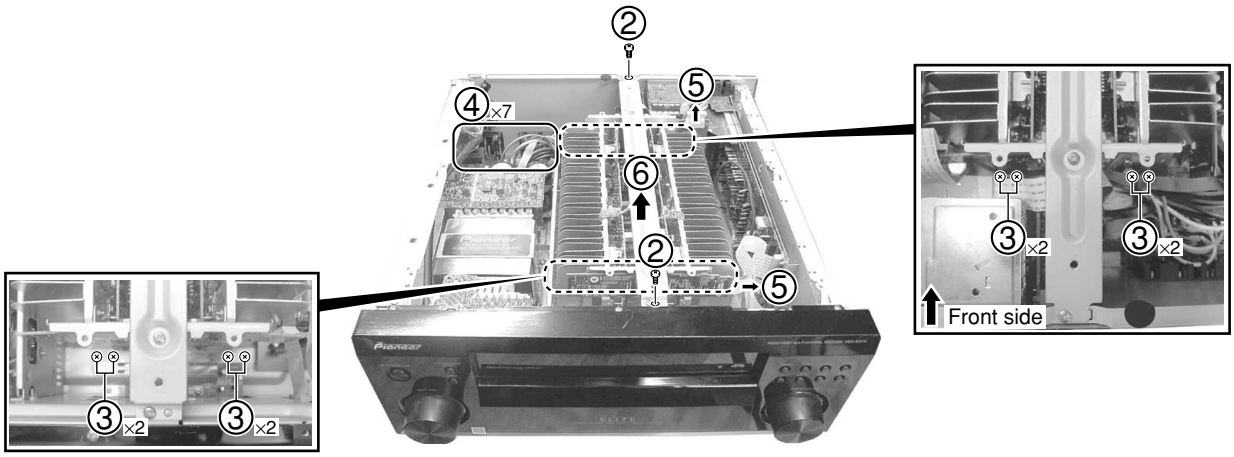


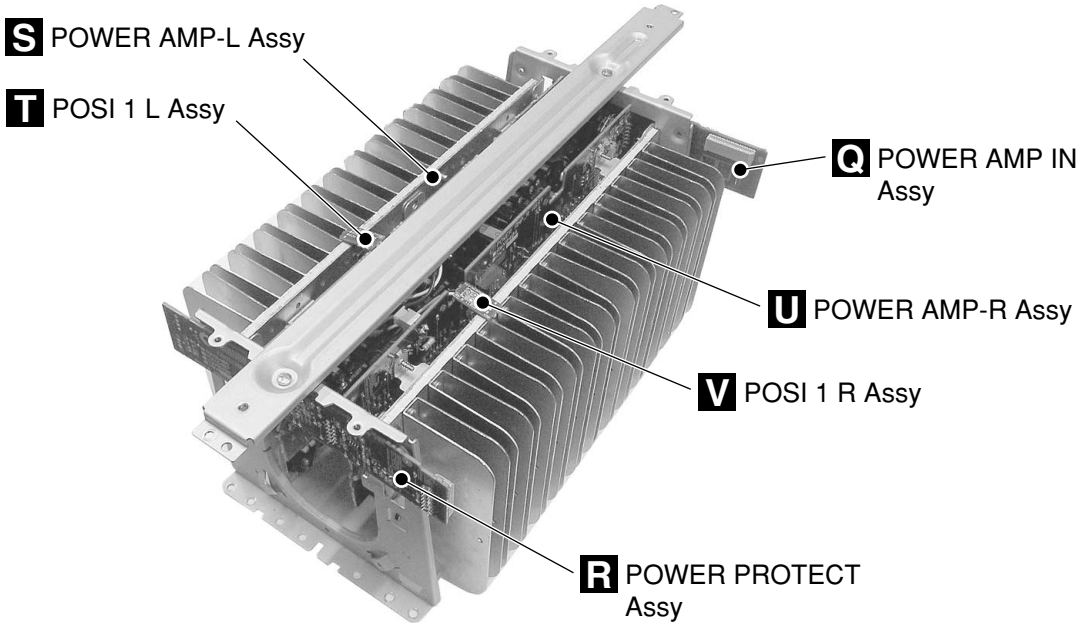
7.1.4 DISASSEMBLY

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

1 Bonnet Case V1B and Heatsink Section

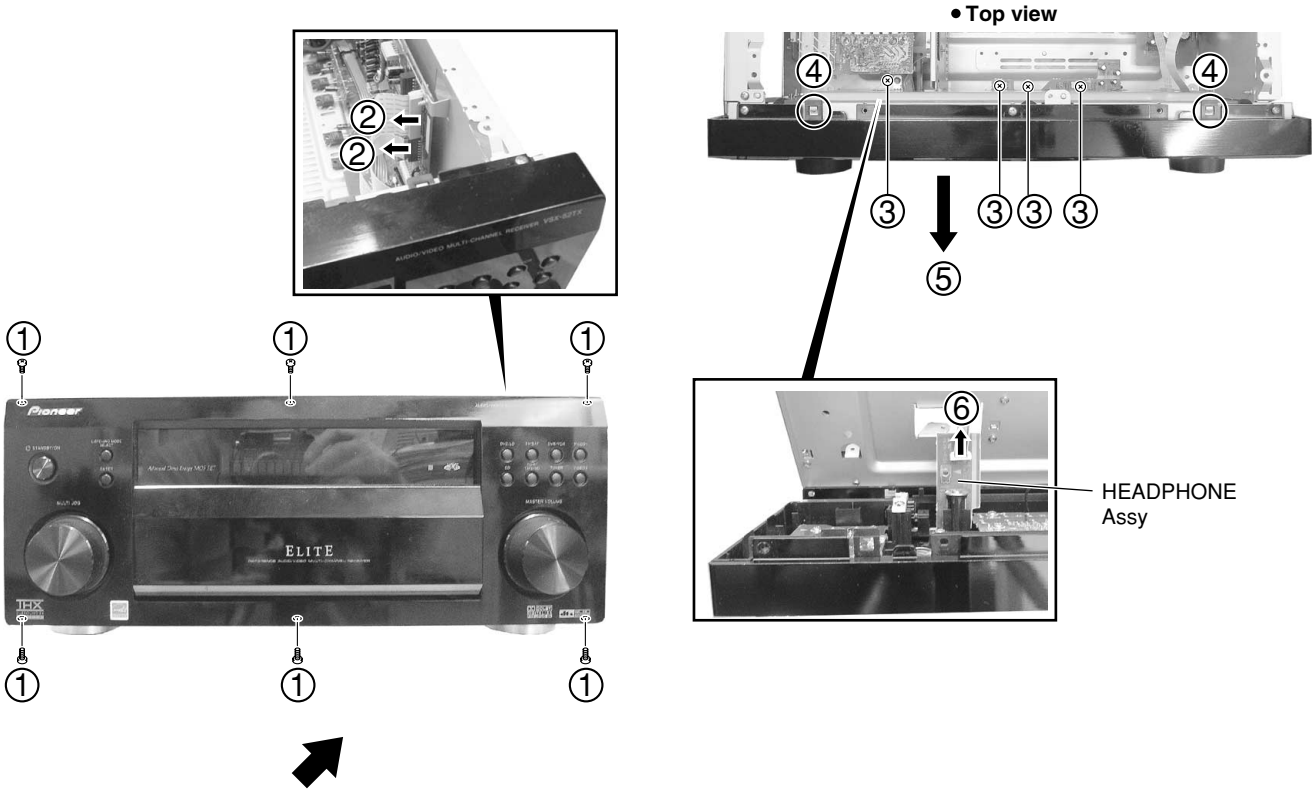
① Remove the bonnet case V1B by removing the twenty screws.
② Remove the two screws.
③ Remove the eight screws.
④ Disconnect the seven connectors.
⑤ Disconnect the two flexible cables.
⑥ Remove the heatsink section.

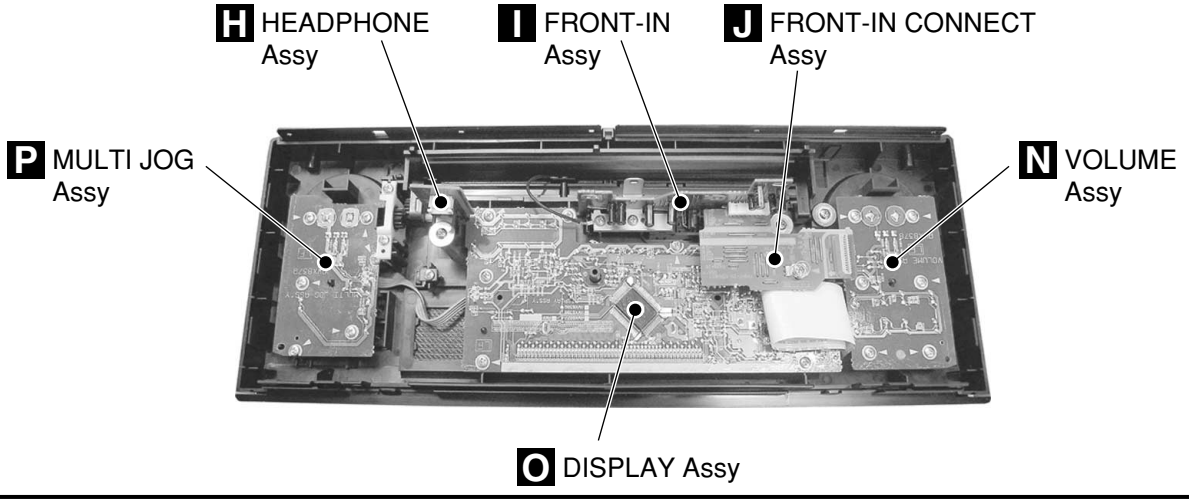




2 Front Panel Section

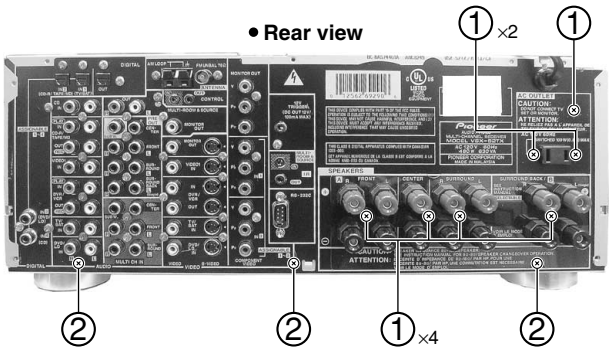
① Remove the six screws.
② Disconnect the two flexible cables.
③ Remove the four screws.
④ Unhook the two hooks.
⑤ Remove the front panel section.
⑥ Disconnect the one connector.



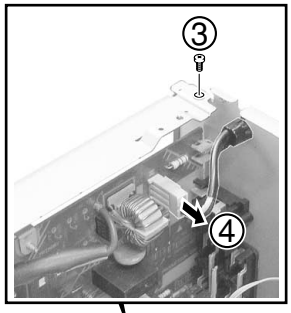


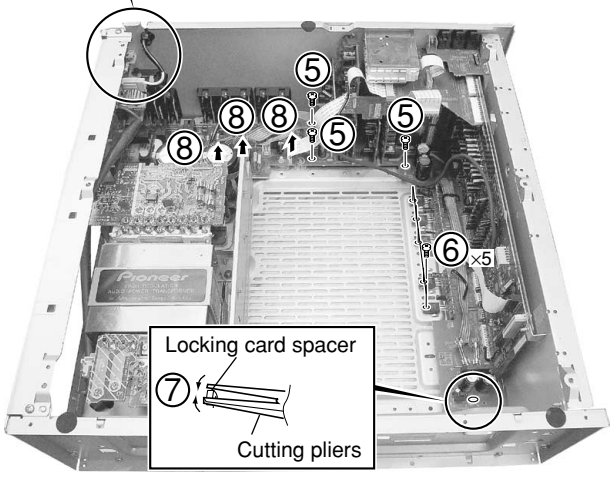
3 Rear Panel and Main Sections

① Remove the seven screws.
② Remove the three screws.

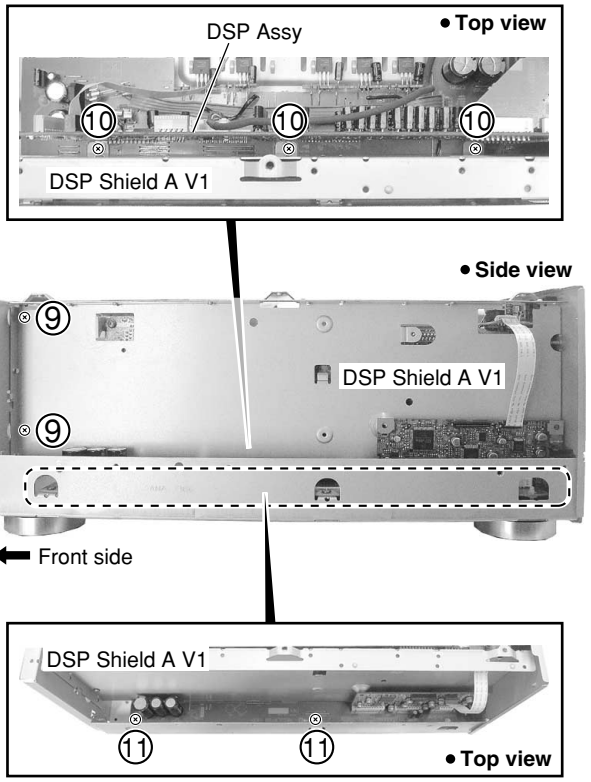


③ Remove the one screw.
④ Disconnect the one connector.
⑤ Remove the three screws.
⑥ Remove the five screws.
⑦ Remove the locking card spacer.
⑧ Disconnect the two connectors and the one flexible cable.

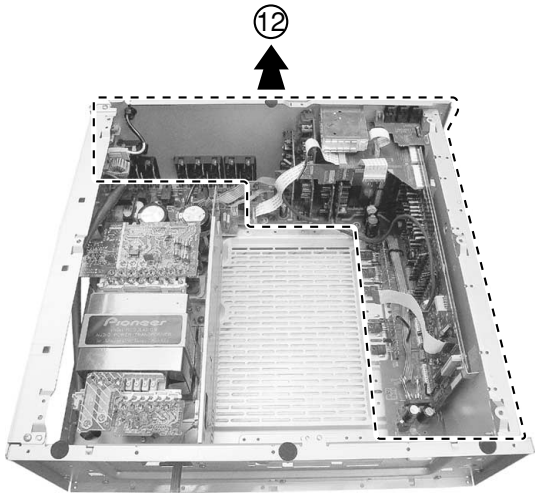


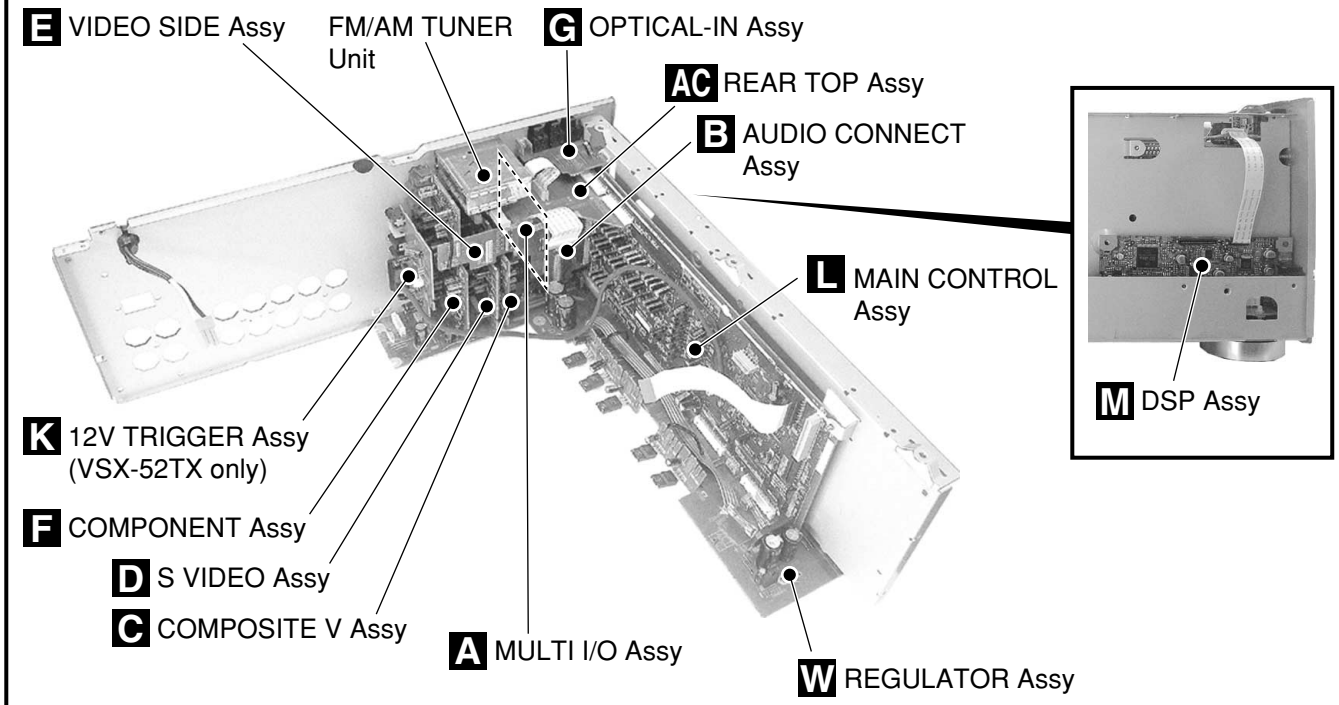


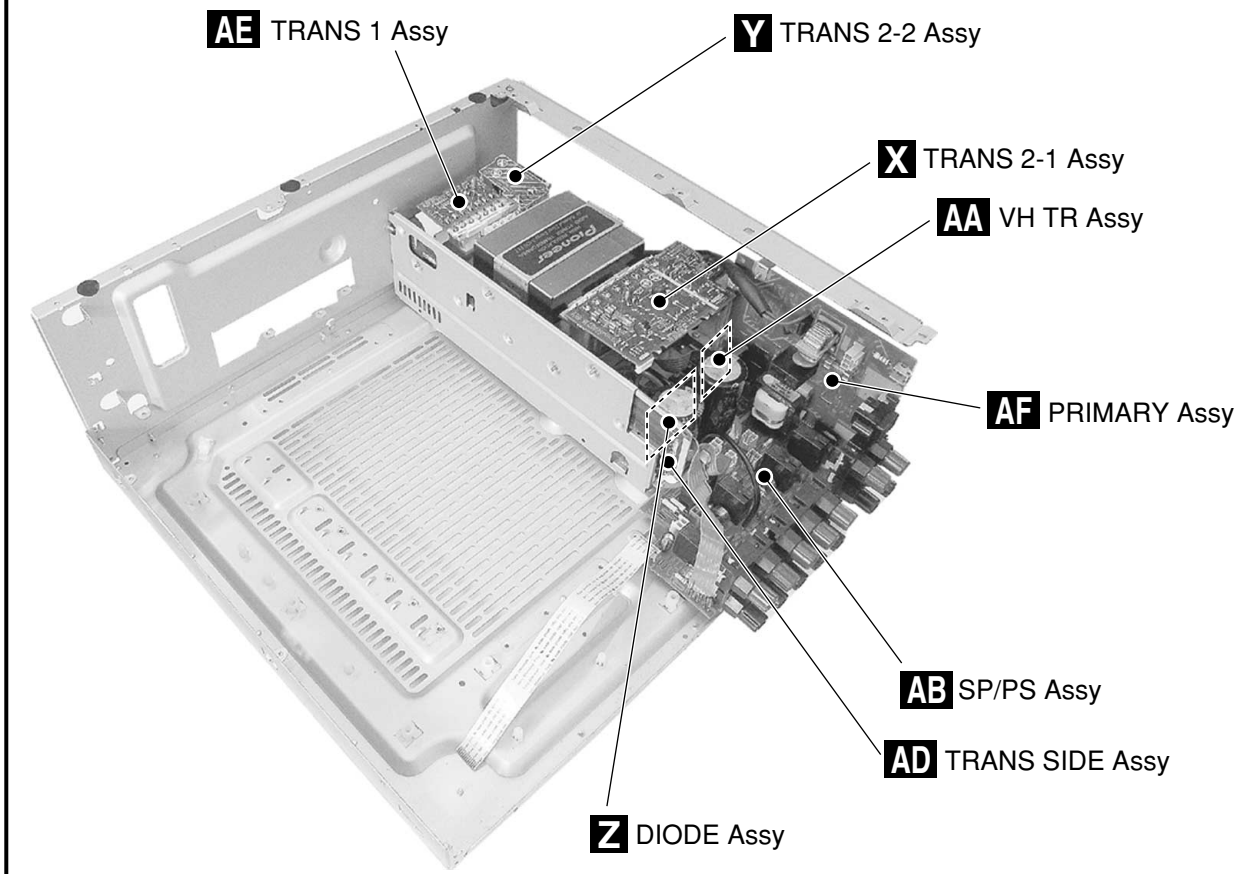
⑨ Remove the two screws.
⑩ Remove the three screws.
⑪ Remove the two screws.



⑫ Remove the rear panel section with the main section.




E VIDEO SIDE Assy
FM/AM TUNER Unit
G OPTICAL-IN Assy
AC REAR TOP Assy
B AUDIO CONNECT Assy
L MAIN CONTROL Assy
M DSP Assy
K 12V TRIGGER Assy (VSX-52TX only)
F COMPONENT Assy
D S VIDEO Assy
C COMPOSITE V Assy
A MULTI I/O Assy
W REGULATOR Assy


AE TRANS 1 Assy
Y TRANS 2-2 Assy
X TRANS 2-1 Assy
AA VH TR Assy
AF PRIMARY Assy
AB SP/PS Assy
AD TRANS SIDE Assy
Z DIODE Assy

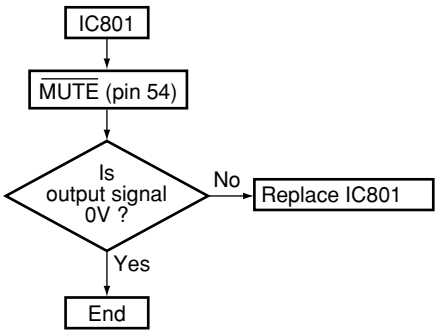
7.1.5 TROUBLE SHOOTING OF THE DSP ASSY

• When a sound is not out in the multi-channel signal playback or surround mode with the digital signal input.
(SurroundBack is not out with the setting.)
• Suppose CR to be poor contact and that is not damaged.
• This shows failure analysis of DSP Assy.

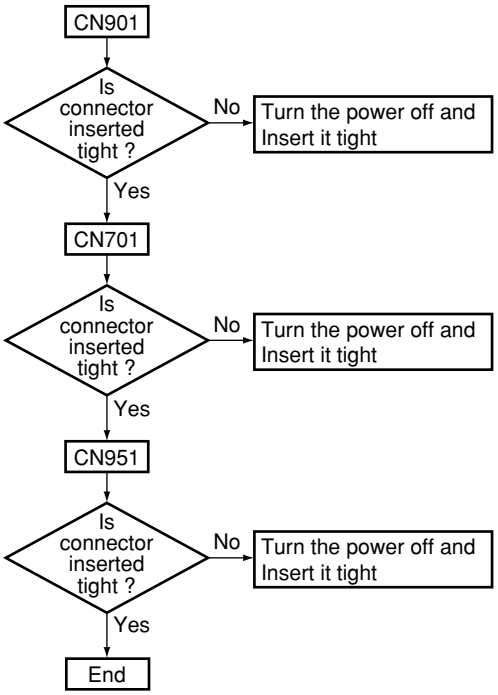
Step 0: Preliminary check

• Tighten the COAX Jack screws.
(GND of the DSP module floats from the chassis. And this unit may not work normally, because the electric potential becomes unstable.)

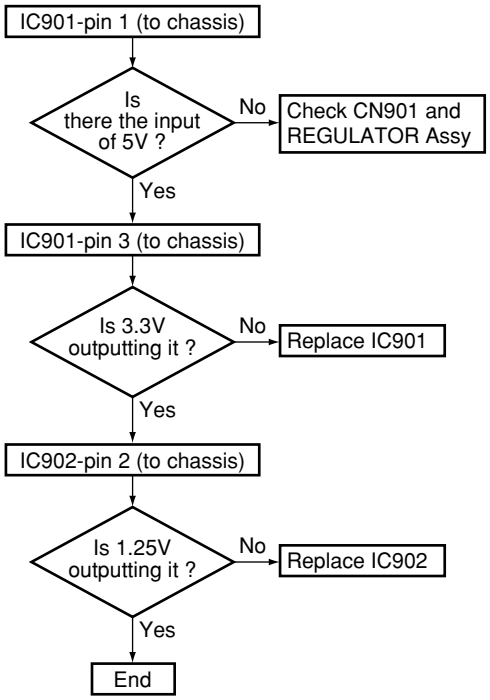
Step 1: Mute pin



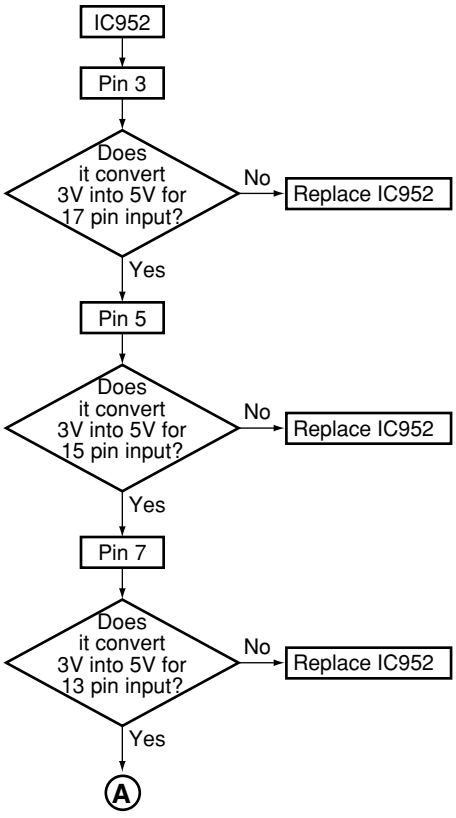
Step 2: B to B connector

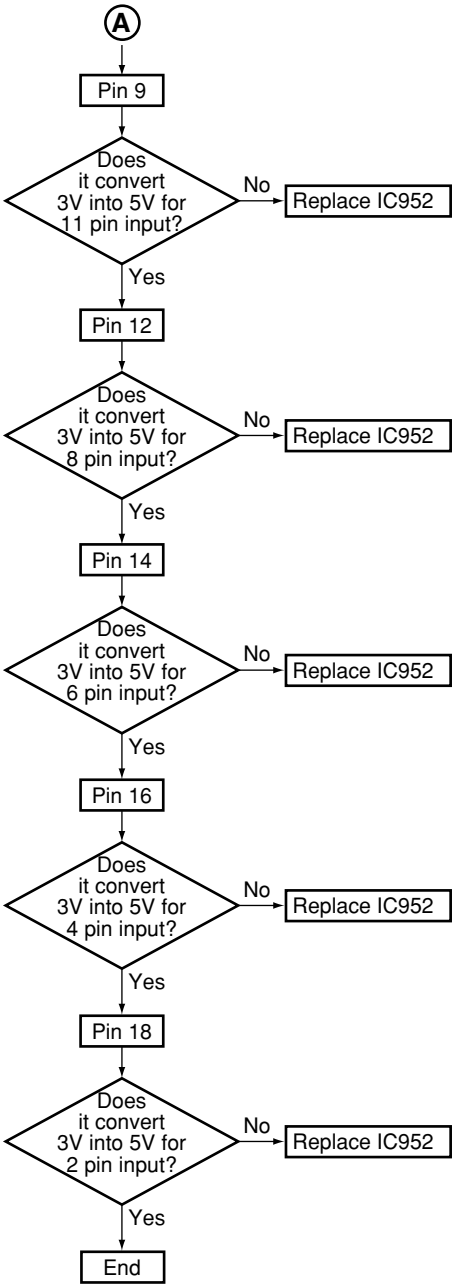


Step 3: Regulator IC

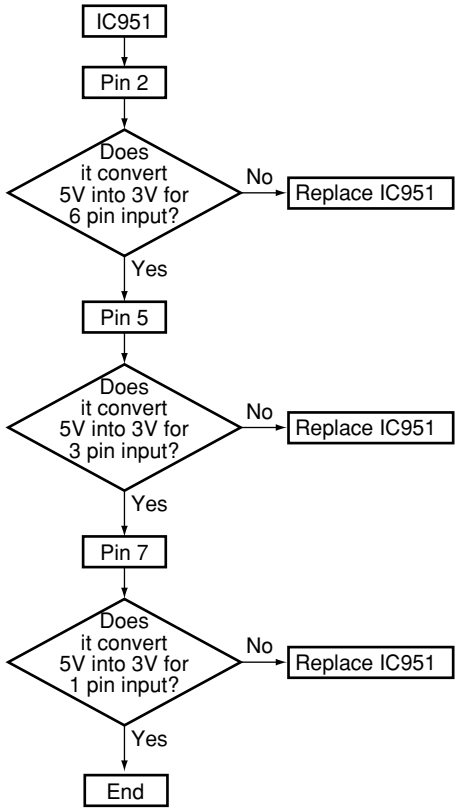


Step 4: 3 → 5V conversion

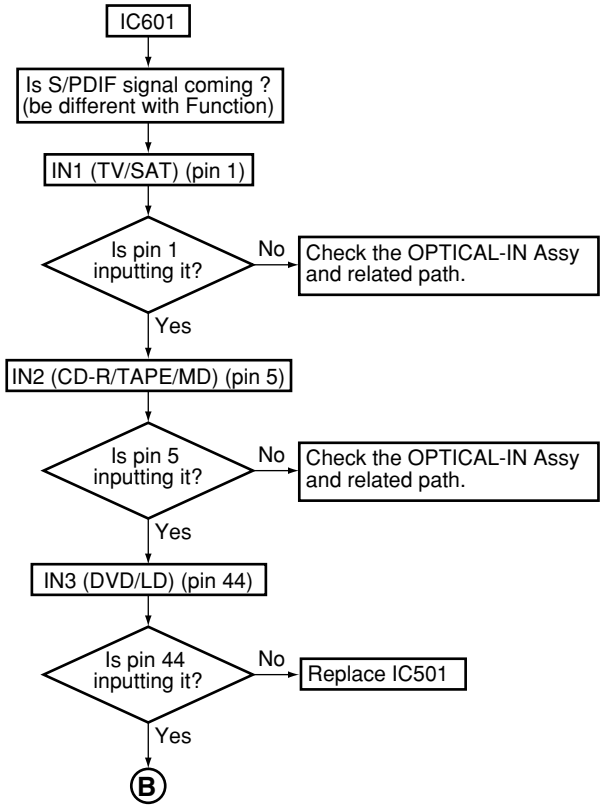


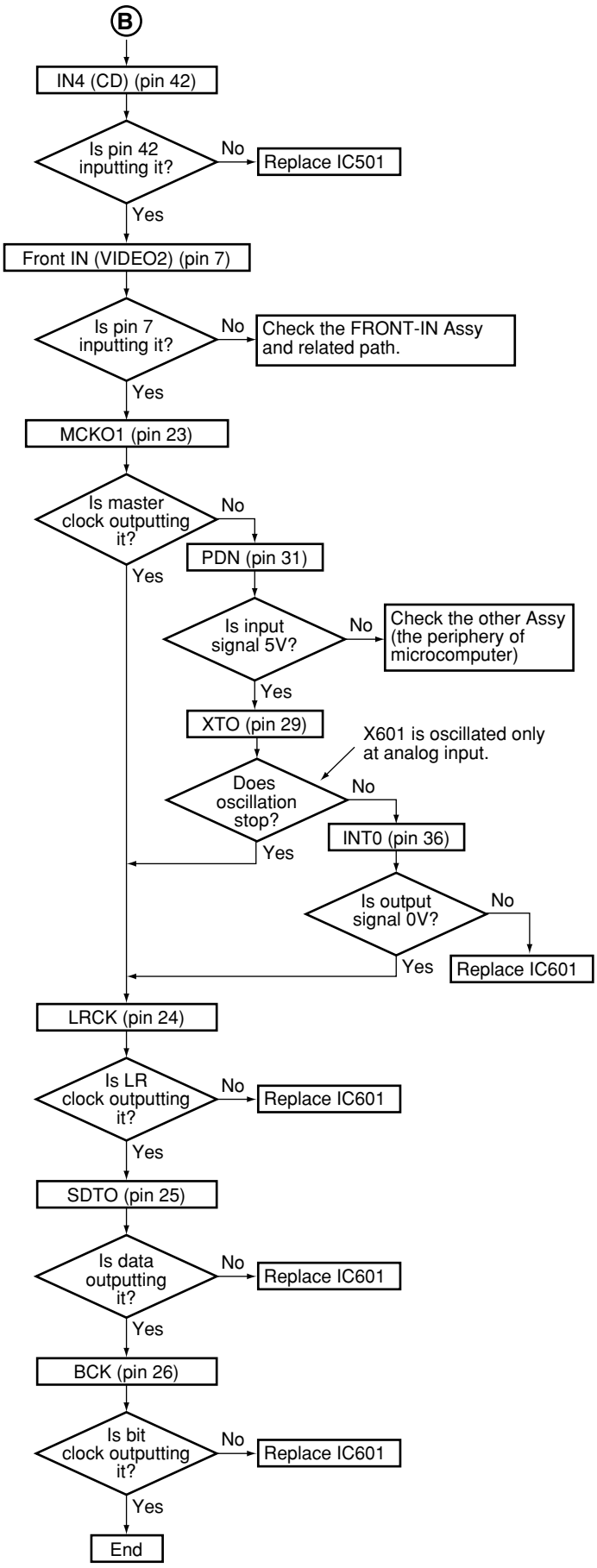


Step 5: 5 → 3V conversion

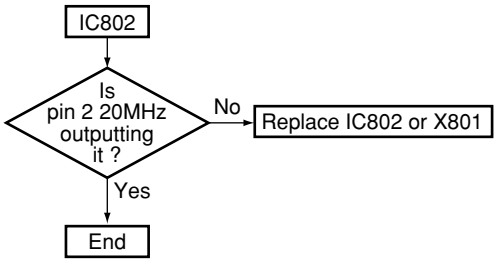


Step 6: DIR



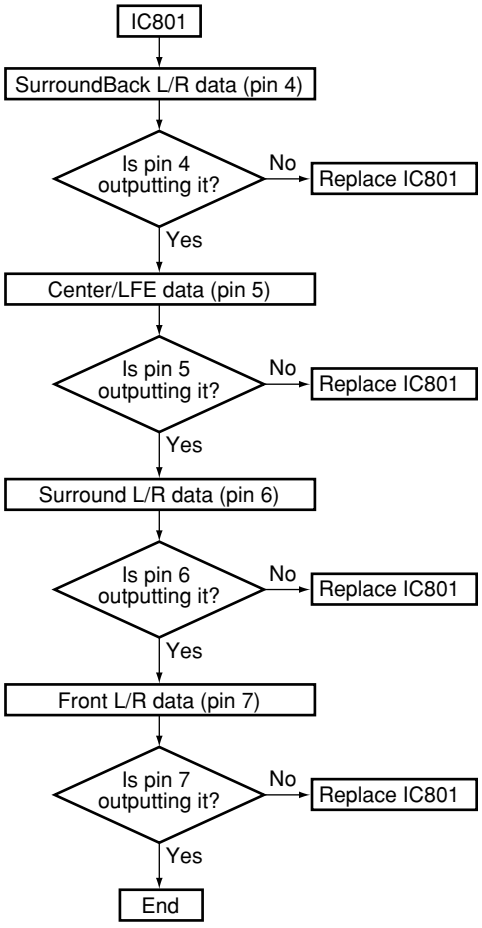


Step 7: X'tal

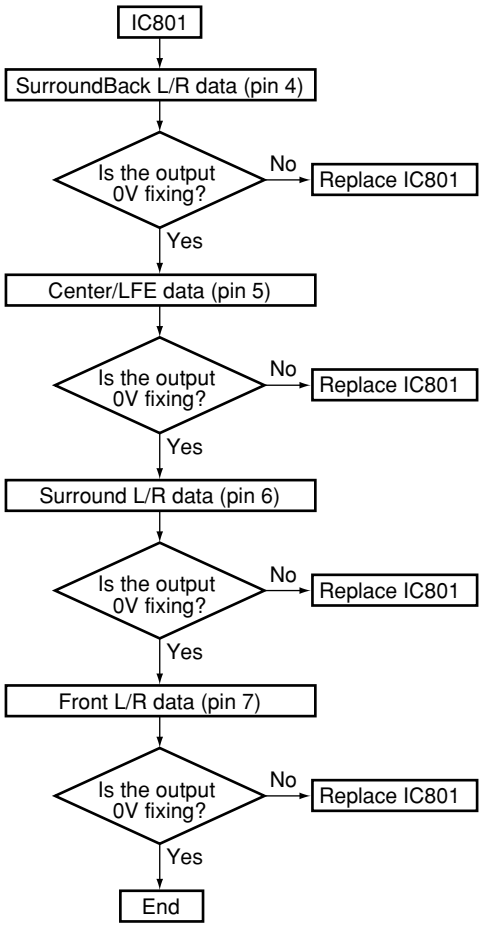


Step 8: DSP output (digital)

• Digital output of each channel in the digital signal (there is a sound) input.

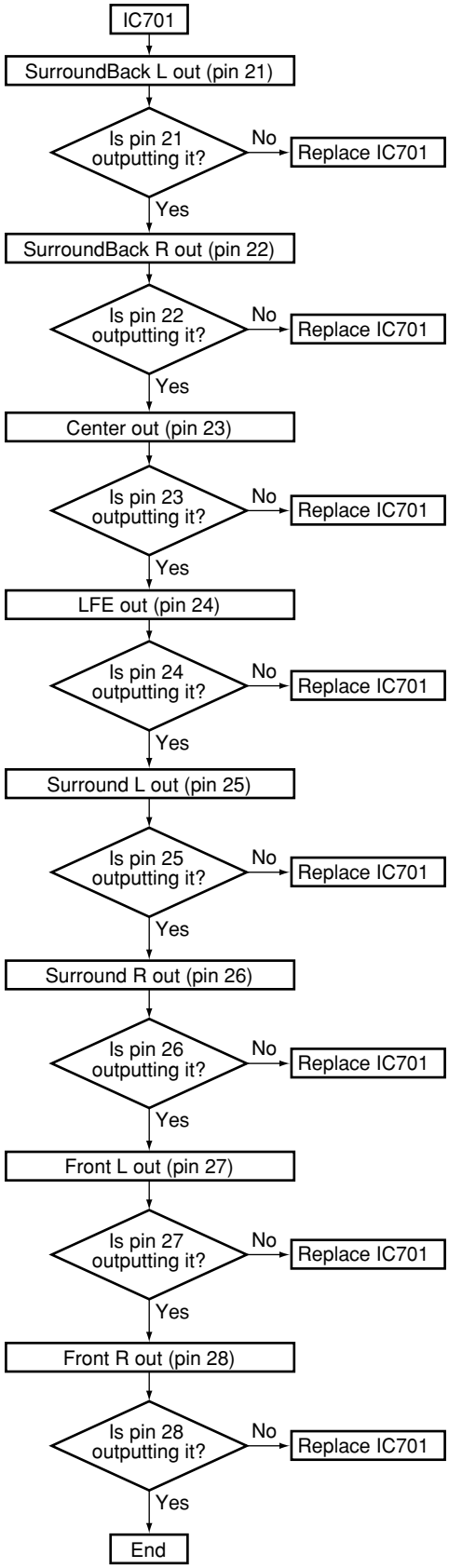


• Each channel output in the digital signal (–∞ dB (there is no sound)) input.

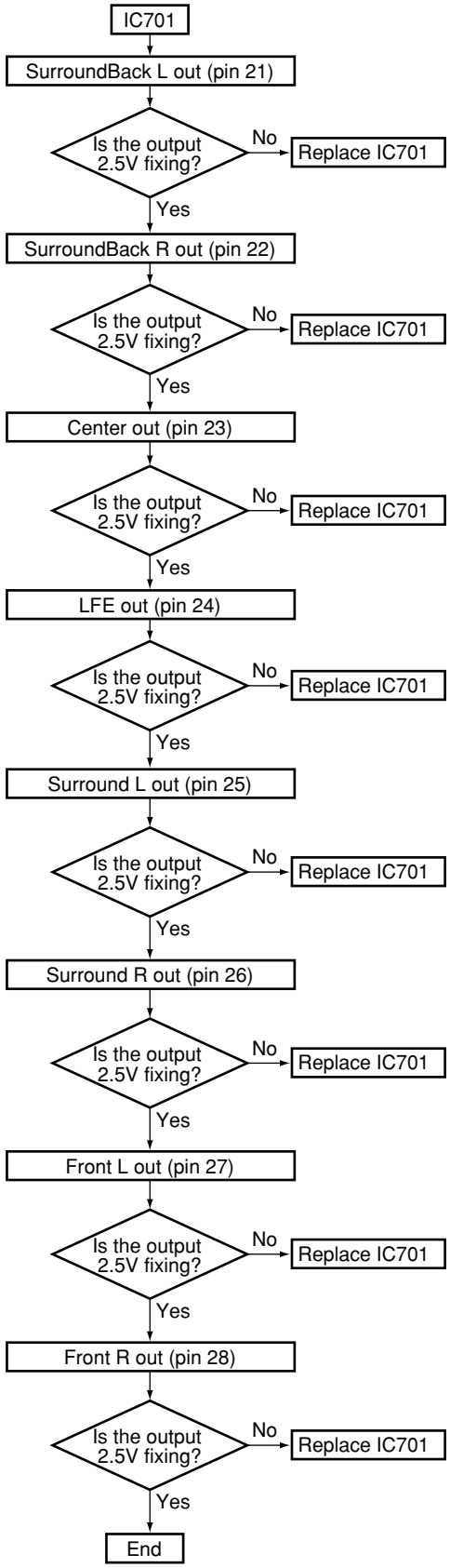


Step 9: Codec output (analog)

• Analog output of each channel in the digital signal (there is a sound) input.



• Each channel output in the digital signal (–∞ dB (there is no sound)) input.

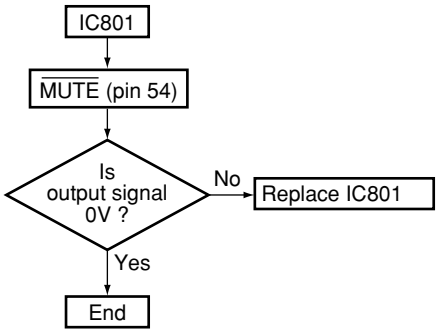


• When MCACC is turned to ON
(SurroundBack is not out with the setting.)
• Suppose CR to be poor contact and that is not damaged.
• This shows failure analysis of DSP Assy.

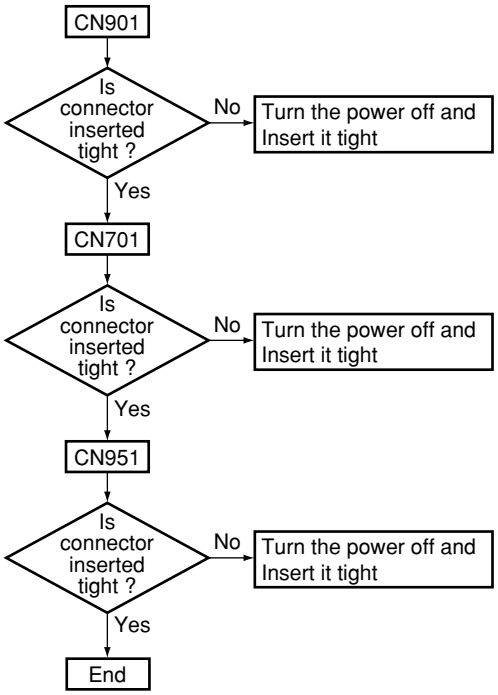
Step 0: Preliminary check

• Tighten the COAX Jack screws.
(GND of the DSP module floats from the chassis. And this unit may not work normally, because the electric potential becomes unstable.)

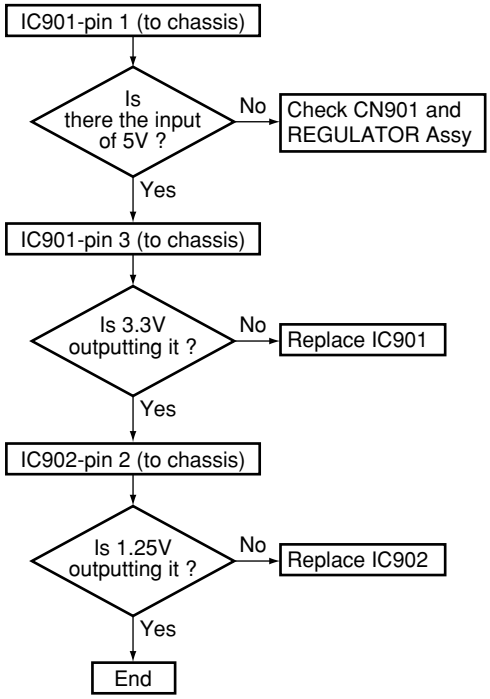
Step 1: Mute pin



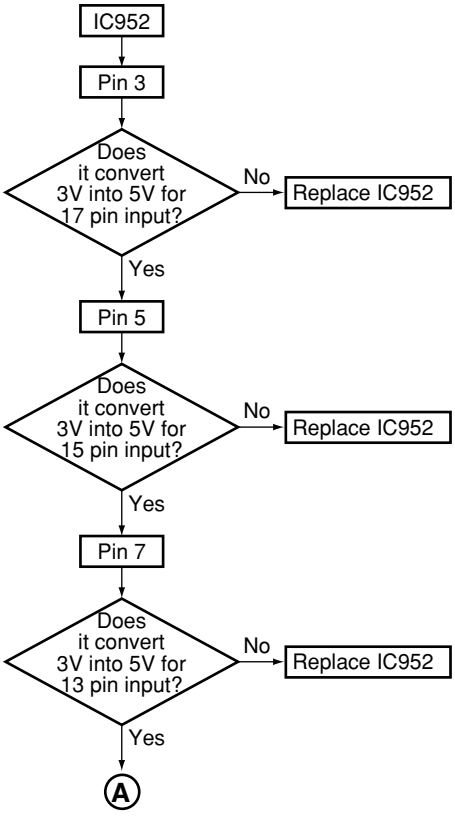
Step 2: B to B connector

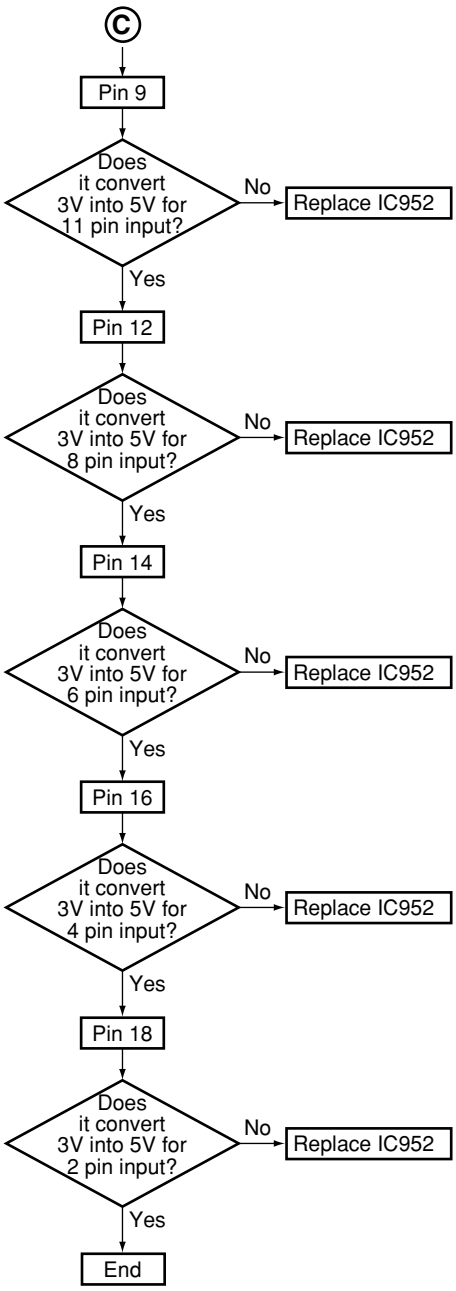


Step 3: Regulator IC

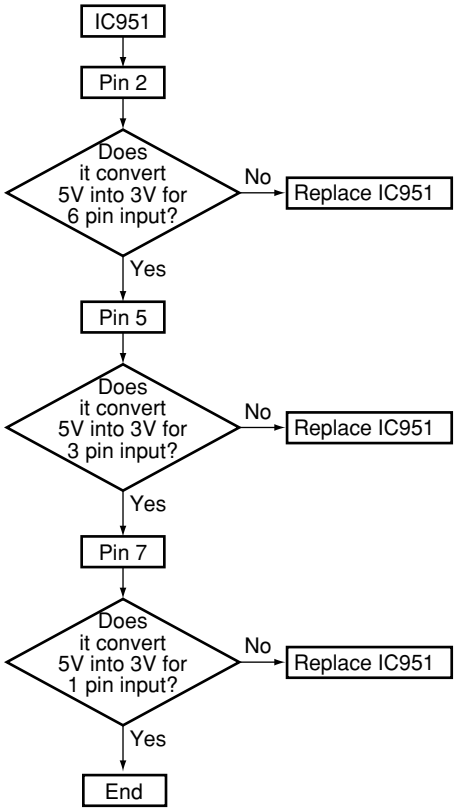


Step 4: 3 → 5V conversion

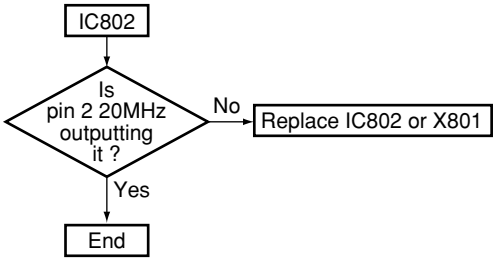




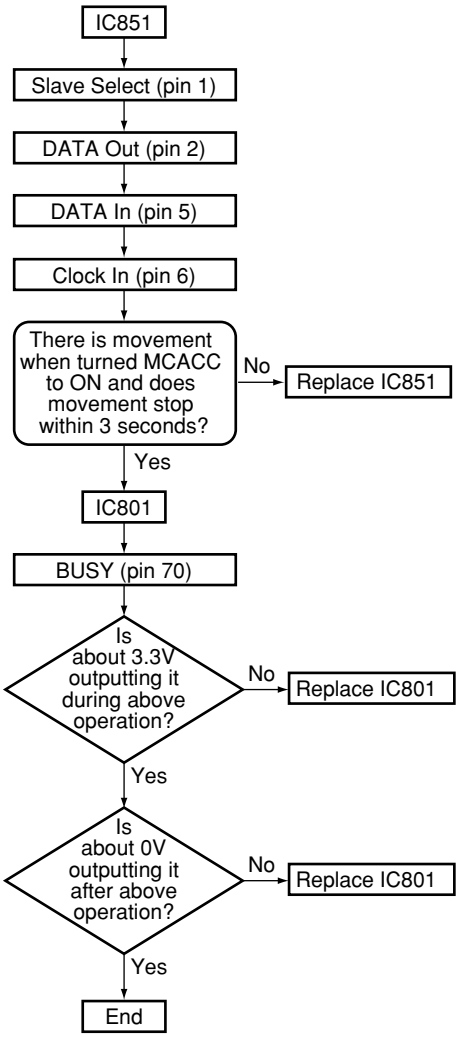
Step 5: 5 → 3V conversion



Step 6: X'tal

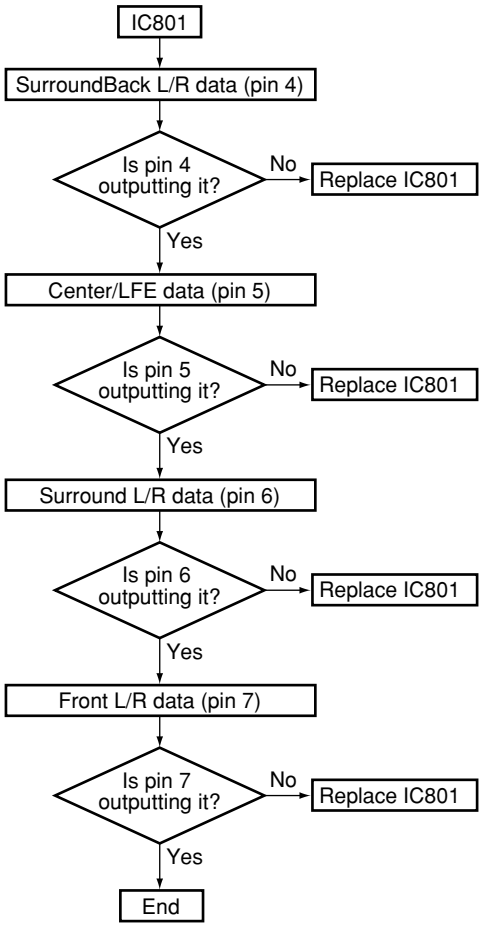


Step 7: ROM



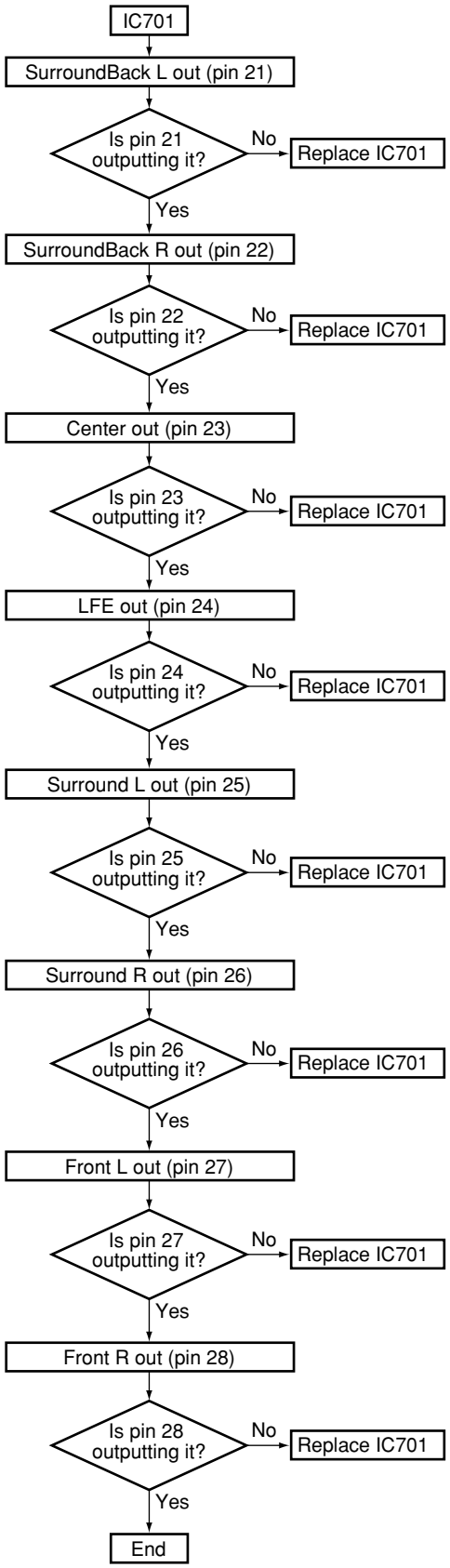
Step 8: DSP output (digital)

• Digital output when indicating each channel



Step 9: Codec output (analog)

• Analog output when indicating each channel



7.2 PARTS

7.2.1 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

● **List of IC**

DSPA56371AF180, AK4628VQE, PD5957A, PE5403A

■ DSPA56371AF180 (DSP ASSY: IC801)

• DSP Microcomputer

● **Pin Function**

No.	Pin Name	I/O	Pin Function	Active
1	SDI1	I	Digital audio data (Front L/R)	
2	GNDIO	–	Interface GND	
3	VDDIO	–	Interface power supply (3.3V)	
4	SDO3	O	Digital audio data (Surround Back L/R)	
5	SDO2	O	Digital audio data (Center/Subwoofer)	
6	SDO1	O	Digital audio data (Surround L/R)	
7	SDO0	O	Digital audio data (Front L/R)	
8	VDDCO	–	Core power supply (1.25V)	
9	PF8	O	General-purpose port	
10	PF6	–	General-purpose port: LOCK	
11	PF7	O	General-purpose port	
12	GNDCO	–	Core GND	
13	PF2	O	General-purpose port	
14	PF3	O	General-purpose port	
15	PF4	O	General-purpose port	
16	PF5	O	General-purpose port	
17	VDDIO	–	Interface power supply (3.3V)	
18	PF1	O	General-purpose port	
19	PF0	O	General-purpose port	
20	GNDSP	–	GND for S/PDIF	
21	PF9	O	General-purpose port	
22	SCAN	I	Test pin	
23	PF10	O	General-purpose port	
24	GNDIO	–	Interface GND	
25	VDDIO	–	Interface power supply (3.3V)	
26	PB0	I	General-purpose port	H
27	PB1	I	General-purpose port	L
28	GNDCO	–	Core GND	
29	VDDCO	–	Core power supply (1.25V)	
30	TDO	O	JTAG data output	
31	TDI	I	JTAG data input	
32	TCK	I	JTAG test clock	
33	TMS	I	JTAG mode select	
34	MOSI	I	Communication data input with the microcomputer	
35	MISO	O	Communication data output with the microcomputer	
36	SCK	I	Communication clock with the microcomputer	
37	SS	I	Communication chip select with the microcomputer	L
38	HREQ	O	Communication request with the microcomputer	H
39	VDDPA	–	PLL power supply (3.3V)	
40	GNDPA	–	PLL GND	
41	VDDPP	–	PLL power supply (3.3V)	
42	GNDPP	–	PLL GND	
43	GNDPD	–	PLL GND	
44	VDDPD	–	PLL power supply (1.25V)	
45	EXTAL	I	External clock input	

No.	Pin Name	I/O	Pin Function	Active
46	PIINT	I	PLL initial pin	
47	RESET	I	Reset	L
48	MODO	I	Mode select D	
49	MODC	I	Mode select C	
50	MODB	I	Mode select B	
51	MODA	I	Mode select A	
52	VDDCO	–	Core power supply (1.25V)	
53	GNDCO	–	Core GND	
54	MUTE	O	DSP MUTE output	L
55	PE10	O	General-purpose port	
56	PE9	O	General-purpose port	
57	PE8	O	General-purpose port	
58	SDI1_1	I	Digital audio data (Center/Subwoofer)	
59	SDI0_1	I	Digital audio data (Ancillary data)	
60	FST_1	I	Digital audio LR clock	
61	PE1	I	General-purpose port: External serial ROM data input	
62	SCKT_1	I	Digital audio bit clock	
63	PE0	O	General-purpose port: Exterenal serial ROM chip select	L
64	VDDIO	–	Interface power supply (3.3V)	
65	GNDIO	–	Interface GND	
66	PE5	O	General-purpose port: Exterenal serial ROM clock	
67	PE2	O	General-purpose port: Exterenal serial ROM data output	
68	GNDCO	–	Core GND	
69	PD1	O	General-purpose port: DSP master/slave switch or 96DTS	H
70	PD0	O	General-purpose port: BUSY	H
71	VDDCO	–	Core power supply (1.25V)	
72	PC2	O	General-purpose port	
73	HCKT	I	Digital audio master clock	
74	GNDIO	–	Interface GND	
75	VDDIO	–	Interface power supply (3.3V)	
76	SCKR	I	Digital audio Bit clock	
77	SCKT	I/O	Digital audio Bit clock	
78	FSR	I	Digital audio Bit clock	
79	FST	I/O	Digital audio Bit clock	
80	SDIO	I	Digital audio data (Surround L/R)	

■ AK4628VQE (DSP ASSY: IC701)

• 8 ch Codec

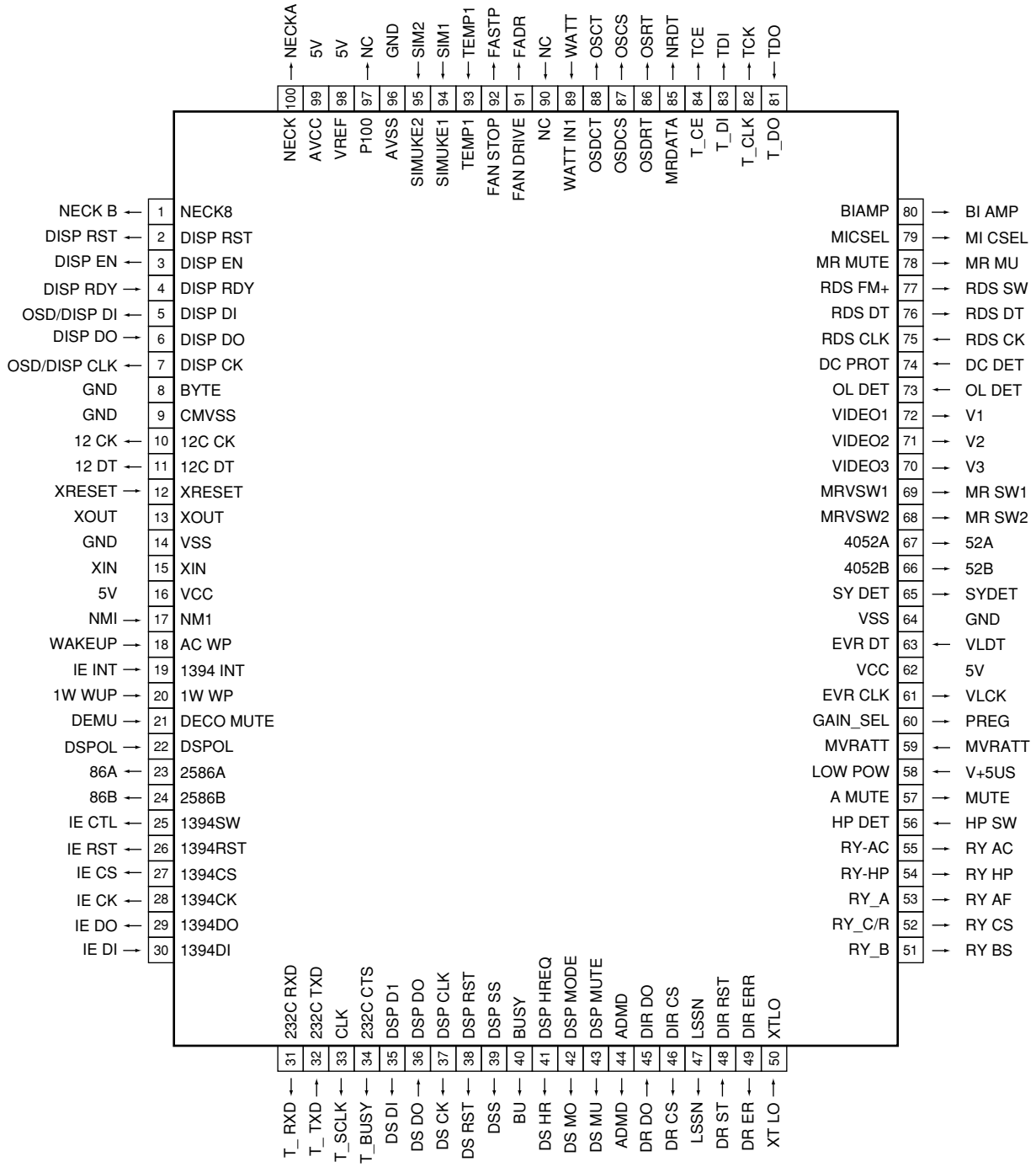
● Pin Function

No.	Pin Name	I/O	Pin Function	Active
1	SDOS	I	SDTO source selection	
2	I2C	I	Serial control mode selection	
3	SMUTE	I	Soft mute	
4	BICK	I	Audio serial data clock	
5	LRCK	I	Input channel clock	
6	SDTI1	I	DAC1 audio serial data input	
7	SDTI2	I	DAC2 audio serial data input	
8	SDTI3	I	DAC3 audio serial data input	
9	SDTO	O	Audio serial data output	
10	DAUX	I	Auxiliary audio serial data input	
11	DFSO	I	Double-speed sampling mode	
12	SDTI4	I	DAC4 audio serial data input	
13	DZFE	I	Zero-input detecting function validity pin	
14	TVDD	–	Power supply for output buffer	
15	DVDD	–	Digital power supply	
16	DVSS	–	Digital ground	
17	PDN	I	Power down and reset	L
18	TST1	I	Test pin	
19	CAD1	I	Chip address 1 pin	
20	CAD0	I	Chip address 0 pin	
21	LOUT4	O	Analog output of DAC 4 L channnel	
22	ROUT4	O	Analog output of DAC 4 R channnel	
23	LOUT3	O	Analog output of DAC 3 L channnel	
24	ROUT3	O	Analog output of DAC 3 R channnel	
25	LOUT2	O	Analog output of DAC 2 L channnel	
26	ROUT2	O	Analog output of DAC 2 R channnel	
27	LOUT1	O	Analog output of DAC 1 L channnel	
28	ROUT1	O	Analog output of DAC 1 R channnel	
29	TST2	–	No connect	
30	NC	–	No connect	
31	LIN	I	L chnnel analog input	
32	RIN	I	R chnnel analog input	
33	DZF2/OVF	O	Zero input detection 2 / Overflow detection of analog input	H
34	VCOM	O	Common voltage output	
35	VREFH	I	Reference voltage input	
36	AVDD	–	Analog power supply	
37	AVSS	–	Analog ground	
38	DZF1	O	Zero input detection 1	H
39	MCLK	I	Master clock input	
40	P/S	I	Parallel/serial input	
41	CSN	I	Chip select	L
42	CCLK	I	Control data clock	
43	CDTI	I	Control data input	
44	TDMO	I	TDM I/F format mode	

■ PD5957A (MAIN CONTROL ASSY: IC501) (For VSX-52TX)

• Main Microcomputer

● **Pin Assignment (Top view)**


1 NECK B ← NECK8
2 DISP RST ← DISP RST
3 DISP EN ← DISP EN
4 DISP RDY → DISP RDY
5 OSD/DISP DI ← DISP DI
6 DISP DO → DISP DO
7 OSD/DISP CLK ← DISP CK
8 GND BYTE
9 GND CMVSS
10 12 CK ← 12C CK
11 12 DT ← 12C DT
12 XRESET → XRESET
13 XOUT XOUT
14 GND VSS
15 XIN XIN
16 5V VCC
17 NMI → NM1
18 WAKEUP → AC WP
19 IE INT → 1394 INT
20 1W WUP → 1W WP
21 DEMU → DECO MUTE
22 DSPOL → DSPOL
23 86A ← 2586A
24 86B ← 2586B
25 IE CTL ← 1394SW
26 IE RST ← 1394RST
27 IE CS ← 1394CS
28 IE CK ← 1394CK
29 IE DO ← 1394DO
30 IE DI → 1394DI
31 232C RXD ← T_ RXD
32 232C TXD → T_ TXD
33 CLK ← T_SCLK
34 232C CTS → T_BUSY
35 DSP D1 ← DS DI
36 DSP DO → DS DO
37 DSP CLK ← DS CK
38 DSP RST ← DS RST
39 DSP SS ← DSS
40 BUSY ← BU
41 DSP HREQ ← DS HR
42 DSP MODE ← DS MO
43 DSP MUTE ← DS MU
44 ADMD ← ADMD
45 DIR DO → DR DO
46 DIR CS ← DR CS
47 LSSN ← LSSN
48 DIR RST → DR ST
49 DIR ERR ← DR ER
50 XTLO → XT LO
51 RY_B → RY BS
52 RY_C/R → RY CS
53 RY_A → RY AF
54 RY-HP → RY HP
55 RY-AC → RY AC
56 HP DET ← HP SW
57 A MUTE → MUTE
58 LOW POW ← V+5US
59 MVRATT ← MVRATT
60 GAIN_SEL → PREG
61 EVR CLK → VLCK
62 VCC 5V
63 EVR DT ← VLDT
64 VSS GND
65 SY DET → SYDET
66 4052B → 52B
67 4052A → 52A
68 MRVSW2 → MR SW2
69 MRVSW1 → MR SW1
70 VIDEO3 → V3
71 VIDEO2 → V2
72 VIDEO1 → V1
73 OL DET ← OL DET
74 DC PROT ← DC DET
75 RDS CLK ← RDS CK
76 RDS DT → RDS DT
77 RDS FM+ → RDS SW
78 MR MUTE → MR MU
79 MICSEL → MI CSEL
80 BIAMP → BI AMP
81 TDO ← T_DO
82 TCK → T_CLK
83 TDI → T_DI
84 TCE → T_CE
85 NRDT → MRDATA
86 OSRT → OSDRT
87 OSCS → OSDCS
88 OSCT → OSDCT
89 WATT ← WATT IN1
90 NC ← NC
91 FADR → FAN DRIVE
92 FASTP → FAN STOP
93 TEMP1 ← TEMP1
94 SIM1 ← SIMUKE1
95 SIM2 ← SIMUKE2
96 GND AVSS
97 NC → P100
98 5V VREF
99 5V AVCC
100 NECKA → NECK

● Pin Function

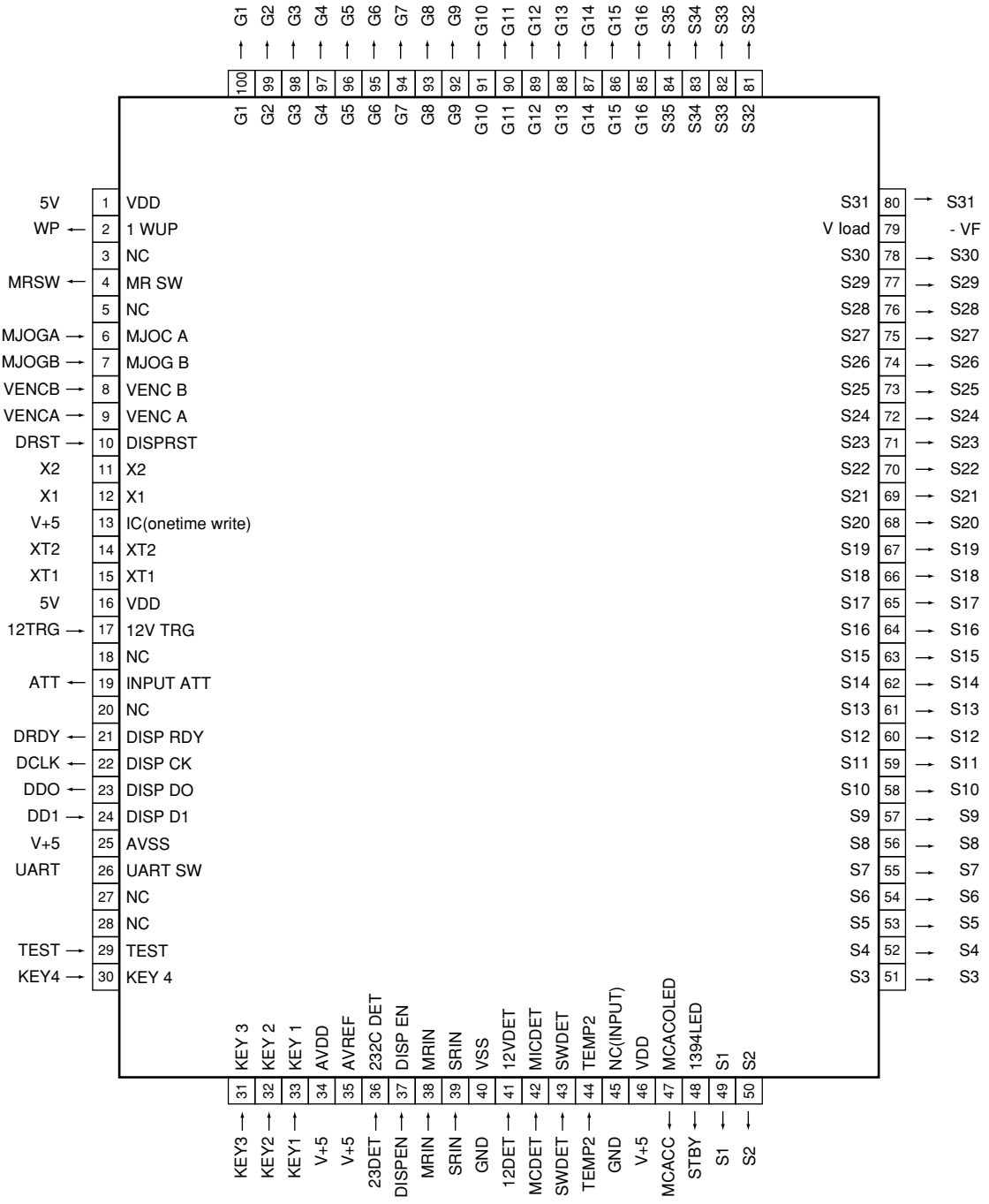
No.	Pin Name	I/O	Pin Function	Active
1	12VTRIGGER	O	"H" at ON	
2	DISP RST	O	Display microcomputer reset signal L: reset, H: release reset (pulldown)	
3	DISP EN	O	Communication enabling signal to the display microcomputer	H
4	DISP RDY	I	Communication enabling signal from the display microcomputer	H
5	OSD/DISP DI	O	Communication data out signal with the OSD-IC/display microcomputer (N ch open drain: pullup)	
6	DISP DO	I	Communication data in signal with the display microcomputer (N ch open drain)	
7	OSD/DISP CLK	O	Communication clock signal with the OSD-IC/display microcomputer	
8	GND	–	Ground	
9	CNVSS	–	5.1kΩ pulldown	
10	–	O	L" fixed	
11	–	O	L" fixed	
12	XRESET	–	Reset	
13	XOUT	–	Oscillator	
14	GND	–	Ground	
15	XIN	–	Oscillator	
16	5V	–	5V power supply	
17	NMI	I	Cannot use it as usual input port (100kΩ pullup)	
18	WAKEUP	I	Wakeup	H
19	1394 INT	I	INT for 1394 (Not used) Standby with the circuit.	
20	1W WUP	I	Wakeup signal at standby (from the display microcomputer) (pulldown)	H
21	DECO MUTE	I	Boot success detecting port of 1st DSP	
22	DSP OL	O	Communication enabling signal to the display microcomputer	H
23	DC PROT	O	OSD-IC reset signal L: reset, H: release reset	
24	Boad DET	O	OSD-IC chip select signal	H
25	MIC DET	O	At data transfer to the OSD-IC: "H"	
26	1394 RST	O	Reset for 1394 "L" fixed.	
27	1394 CS	O	Standby for 1394 (Not used) "L" fixed.	H
28	1394 CK	O	CK for 1394	
29	1394 DO	O	DO for 1394	
30	1394 DI	I	DI for 1394	
31	232C RXD	O	For 232C rewriting (data output)	
32	232C TXD	I	For 232C rewriting (data input)	
33	CLK	-	Not used	
34	232C CTS	O	For 232C rewriting (communication permission)	
35	DSP DI	O	Communication data out signal with the DSP1 microcomputer	
36	DSP DO	I	Communication data in signal with the DSP2 microcomputer	
37	DSP CLK	O	Communication clock signal with the DSP microcomputer	
38	DSP RST	O	DSP microcomputer reset signal L: reset, H: release reset	
39	DSP SS	O	Slave select signal to DSP microcomputer	
40	BUSY	I	MCACC used	L
41	DSP HREQ	O	Error detection signal of DSP microcomputer	L
42	DSP MODE	O	Mode selection of DSP microcomputer (ROM/RAM) H: ROM mode, L: RAM (PPP) mode	H
43	DSP MUTE	O	DSP Assy mute	H
44	ADMD	-	NC	
45	DIR DO	I	Communication data in signal with the DIR/DAC	
46	DIR CS	O	Communication chip select signal with the DIR/DAC	
47	LSSN	-	NC	
48	DIR RST	O	DIR reset signal	
49	DIR ERR	I	Lock/Unlock signal from DIR	
50	XTLO	O	Selection X'tal to DIR	

No.	Pin Name	I/O	Pin Function	Active
51	RY BS	O	Speaker relay B ON/OFF	
52	RY C/R	O	Rear / Center relay ON / OFF	H
53	RY A	O	Speaker relay A ON/OFF	
54	RY- HP	O	Headphone relay ON / OFF	
55	RY- AC	O	AC relay ON / OFF	
56	HP DET	O	Headphone detection H: detected.	
57	A MUTE	O	System mute L: Mute ON	
58	V+5V	–	5V power supply	
59	DSP HREQ2	I	Error detection signal of DSP2 microcomputer	
60	GND	–	Ground	
61	EVR CLK	O	Clock signal for evectronic volume	
62	5V	–	5V power supply	
63	EVR DT	O	Data signal for evectronic volume	L
64	GND	–	Ground	
65	SY DET	O	System detection	H
66	4052A	O	Output switching control signal 1 of surround back ch	
67	4052B	O	Output switching control signal 1 of surround back ch	
68	MRVSW2	O	Function SW control (Strobe)	
69	MRVSW1	O	Function SW control (Clock)	
70	VIDEO3	O	SWSP detect	
71	VIDEO2	O	SWSP detect	
72	VIDEO1	O	Control IC(NJM2296) : Video in put select	
73	OL DET	I	Amp. overload detection L: Detection	L
74	DC PROT	I	DC detection L: Detection	
75	RDS CLK	O	"L" fixed	
76	RDS DT	O	"L" fixed	
77	RDS FM+	O	"L" fixed	
78	MR MUTE	O	Multi room mute L: Mute ON	
79	MICSEL	O	MIC select	H
80	BIAMP	I		L
81	TUNED DO	I	Data input signal of tuner contror (pullup)	L
82	TUNER CLK	O	Clock signal of tuner control	
83	TUNER DI	O	Data output signal of tuner control	
84	TUNER CE	O	Chip select signal of tuner control	
85	MRDATA	O	Multi room data	
86	OSDRST	O	OSD-IC reset signal L: reset H: release reset	
87	OSDCS	O	OSD-IC chip select signal	
88	OSDCT	O	OSD-IC rewriting	
89	WATT IN1	I	Wattage detection Level detection with A/D	A/D
90	NC	I	Not used	
91	FAN DRIVE	O	"L" fixed	
92	FAN STOP	I	Fan forced stop detection	
93	TEMP1	I	Temperature detection Level detection with A/D	A/D
94	SIMUKE1	I	Destination read 1	
95	SIMUKE2	I	Destination read 2	H
96	AVSS	–	Connect to VSS	
97	–	O	NC	L
98	VREF	–	Connect to VCC	
99	AVCC	–	Connect to VCC	
100	NECK	O	Destination read 2	

■ PE5403A (DISPLAY ASSY: IC3001)

• Display Microcomputer

● Pin Assignment (Top view)



● **Pin Function**

No.	Pin Name	I/O	Pin Function	Active
1	VDD	–	VDD(5V)power supply	
2	1WUP	I	Wakeup	
3	NC	–	NC	
4	MR SW	O	Multi room input Pioneer / others L: Pioneer	
5	NC	–	NC	
6	MJOG A	I	MULTI JOG input A	
7	MJOG B	I	MULTI JOG input B	
8	VENCB	–	5V Volt(-)	
9	VENCA	–	5V Volt(+)	
10	DISPRST	I	Reset signal in put	
11	X2	–	Input clock 5MHz	
12	X1	–	Input clock 5MHz	
13	IC	–	Vss Power supply 5V	
14	XT2	–		
15	XT1	–		
16	VDD	–	5V power supply	
17	12V TRG	O	" H" at ON	
18	NC	–	NC	
19	INPUT ATT	I	INPUT Atteneuator	
20	NC	–	NC	
21	DISP RDY	O	Communication enabling signal to the display microcomputer	H
22	DISP CK	O	Communication clock signal with the OSD-IC/display microcomputer	
23	DISP DO	O	Communication data in signal with the display microcomputer (N ch open drain)	H
24	DISP DI	I	Communication data out signal with the OSD-IC/display microcomputer (N ch open drain: pullup)	H
25	AVSS	–	Ground	
26	UART SW	O		
27	NC	–	NC	
28	NC	–	NC	
29	TEST	I	TEST Mode	
30	KEY 4	I	KEY AD input	
31	KEY 3	I	KEY AD input	
32	KEY 2	I	KEY AD input	
33	KEY 1	I	KEY AD input	
34	AVDD	–	V+5	
35	AVREF	–	5V reference voltaage	
36	232C DET	I	For 232C signal input detection	
37	DISP EN	I	Communication enabling signal to the display microcomputer	
38	MRIN	I	Remote control input of sub room (active : H)	
39	SRIN	I	Remote control input of main room	
40	VSS	–	Ground	
41	12VDET	I	12V detection	
42	MICDET	I	MIC detection	
43	SWDET	I	SW detection	
44	TEMP2	I	Temperature detection Level 2	
45	NC	–	NC	
46	VDD	–	V+5	
47	MCACOLED	O	MCACC LED	
48	1394LED	O	1394 LED	
49	S1	O	FL p_35s Drive	
50	S2	O	FL p_34s Drive	

No.	Pin Name	I/O	Pin Function	Active
51	S3	O	FL p_33s Drive	
52	S4	O	FL p_32s Drive	
53	S5	O	FL p_31s Drive	
54	S6	O	FL p_30s Drive	
55	S7	O	FL p_29s Drive	
56	S8	O	FL p_28s Drive	
57	S9	O	FL p_27s Drive	
58	S10	O	FL p_26s Drive	
59	S11	O	FL p_25s Drive	
60	S12	O	FL p_24s Drive	
61	S13	O	FL p_23s Drive	
62	S14	O	FL p_22s Drive	
63	S15	O	FL p_21s Drive	
64	S16	O	FL p_20s Drive	
65	S17	O	FL p_19s Drive	
66	S18	O	FL p_18s Drive	
67	S19	O	FL p_17s Drive	
68	S20	O	FL p_16s Drive	
69	S21	O	FL p_15s Drive	
70	S22	O	FL p_14s Drive	
71	S23	O	FL p_13s Drive	
72	S24	O	FL p_12s Drive	
73	S25	O	FL p_11s Drive	
74	S26	O	FL p_10s Drive	
75	S27	O	FL p_ 9s Drive	
76	S28	O	FL p_ 8s Drive	
77	S29	O	FL p_ 7s Drive	
78	S30	O	FL p_ 6s Drive	
79	V Load	–	FIP controller/driver pull down resistor connecting	
80	S31	O	FL p_ 5s Drive	
81	S32	O	FL p_ 4s Drive	
82	S33	O	FL p_ 3s Drive	
83	S34	O	FL p_ 2s Drive	
84	S35	O	FL p_ 1s Drive	
85	G16	O	FL p_16g Drive	
86	G15	O	FL p_15g Drive	
87	G14	O	FL p_14g Drive	
88	G13	O	FL p_13g Drive	
89	G12	O	FL p_12g Drive	
90	G11	O	FL p_11g Drive	
91	G10	O	FL p_10g Drive	
92	G9	O	FL p_ 9g Drive	
93	G8	O	FL p_ 8g Drive	
94	G7	O	FL p_ 7g Drive	
95	G6	O	FL p_ 6g Drive	
96	G5	O	FL p_ 5g Drive	
97	G4	O	FL p_ 4g Drive	
98	G3	O	FL p_ 3g Drive	
99	G2	O	FL p_ 2g Drive	
100	G1	O	FL p_ 1g Drive	

7.3 CLEANING

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

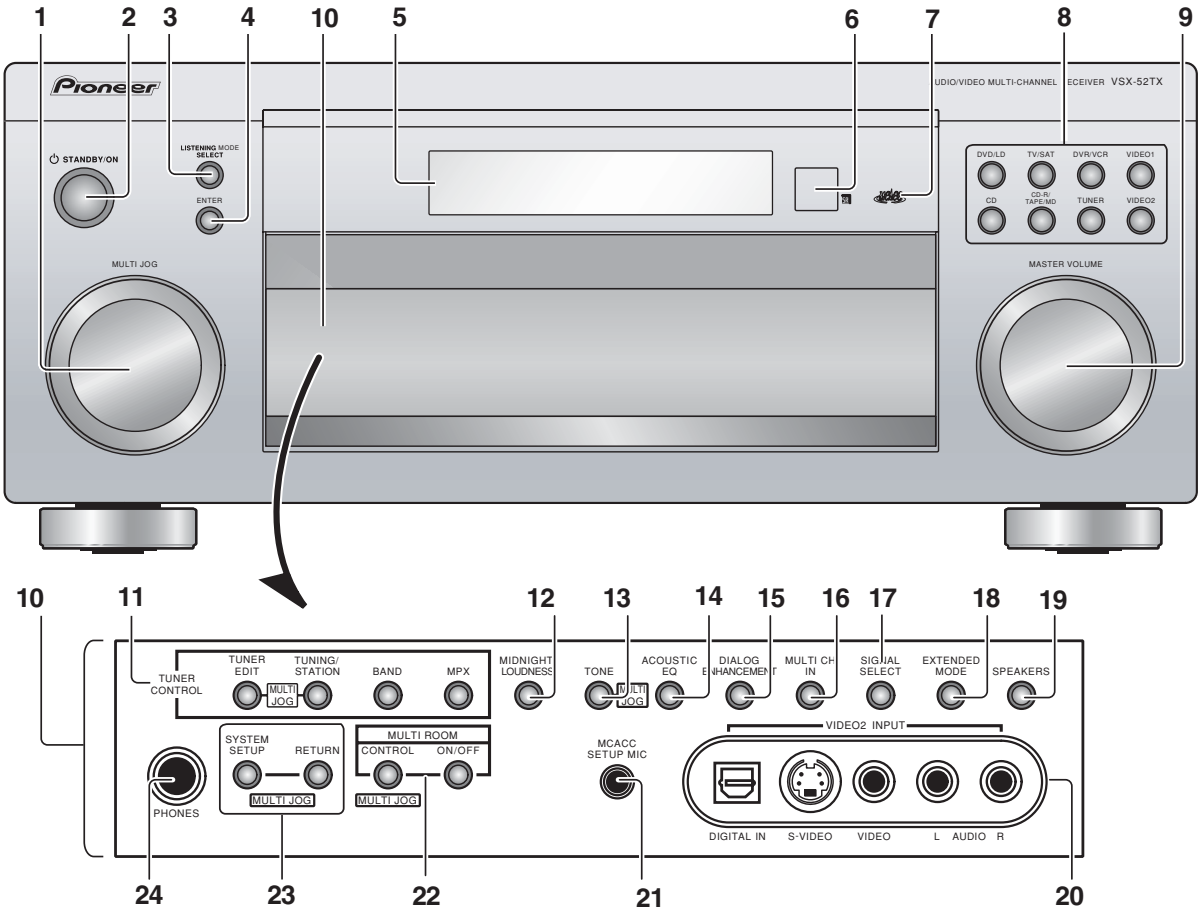
Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

8. PANEL FACILITIES

8.1 FRONT PANEL

All the controls on the front panel are explained and/or referenced here. To open the front panel push gently on the lower third of the panel.

Front panel



1 MULTI JOG dial
Use the MULTI JOG dial to select various settings and menu options.

2 ⏻ STANDBY/ON
Switches the receiver between on and standby.

3 LISTENING MODE SELECT
Use with the MULTI JOG dial to select the various listening modes.

4 ENTER

5 Character display

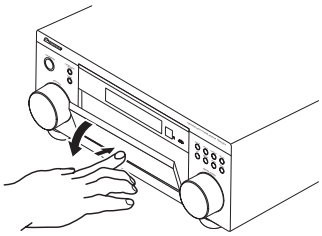
6 Remote sensor
Receives the signals from the remote control.

7 MCACC indicator
Lights when Acoustic Calibration EQ is on (Acoustic Calibration EQ is automatically set to ALL CH ADJUST after the Auto MCACC Setup or EQ Auto Setting is complete).

8 Input select buttons
Press to select an input source.

9 MASTER VOLUME dial

10 Front panel controls
To access the front panel controls, push gently on the lower third portion of the panel with your finger.



11 TUNER CONTROL

TUNER EDIT
Use with the MULTI JOG dial to memorize and name stations for recall.

TUNING/STATION
Use with the MULTI JOG dial to select station presets and radio frequencies.

BAND
Switches between AM and FM radio bands.

MPX
Press to receive a radio broadcast in mono.

12 MIDNIGHT/LOUDNESS
Use Midnight when listening to movie soundtracks at low volume. Use Loudness to boost the bass and treble at low volume.

13 TONE
When the STEREO mode is selected, press this button to access the bass and treble controls, which you can then adjust with the MULTI JOG dial.

14 ACOUSTIC EQ
Press to select an Acoustic Calibration EQ setting.

15 DIALOG ENHANCEMENT
Use to make dialog stand out when watching TV or a movie.

16 MULTI CH IN
Press to select the component connected to the MULTI CH IN terminals (for example, a DVD-Audio player).

17 SIGNAL SELECT
Use to select an input signal.

18 EXTENDED MODE
Selects the surround back channel mode or virtual surround back mode.

19 SPEAKERS
Use to change the speaker system.

20 VIDEO2 INPUT

21 MCACC SETUP MIC jack
Use to connect the supplied microphone.

22 MULTI ROOM controls
If you've made multi-room connections use these controls to control the sub room from the main room.

23 System Setup menu controls

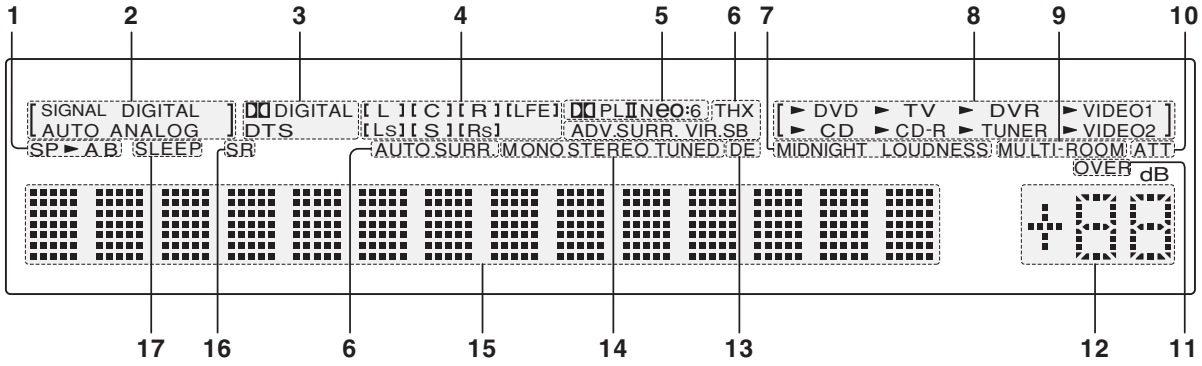
SYSTEM SETUP
Use with the MULTI JOG dial to access the System Setup menu.

RETURN
Press to confirm and exit the current menu screen.

24 PHONES jack
Use to connect headphones. When the headphones are connected, there is no sound output from the speakers.

8.2 DISPLAY

Display



1 Speaker indicators
Lights to indicate the current speaker system, A and/or B.

2 SIGNAL SELECT indicators
Lights to indicate the type of input signal assigned for the current component:

AUTO
Lights when AUTO signal select is on.

DIGITAL
Lights when a digital audio signal is detected.

ANALOG
Lights when an analog signal is detected.

3 Digital format indicators

2 DIGITAL
Lights when a Dolby Digital encoded signal is detected.

DTS
Lights when a DTS encoded signal is detected.

4 Program format indicators
These change according to which channels are active in Dolby, DTS, DVD-A and SACD sources.

LS, S and RS will light at the same time to indicate 6.1channel sources.

- L – Left front channel
- C – Center channel
- R – Right front channel
- LS – Left surround channel
- S – Surround channel (mono) or surround back channel
- RS – Right surround channel
- LFE – Low frequency effects channel

5 Matrix decoding format indicators

2 PL II
This lights to indicate Pro Logic II / Pro Logic IIx decoding.

Neo:6
When one of the Neo:6 modes of the receiver is on, this lights to indicate Neo:6 processing.

6 Listening mode indicators

THX
Lights when one of the Home THX modes is selected.

VIR.SB
Lights during Virtual surround back processing.

ADV.SURR.
Lights when one of the Advanced Surround modes has been selected.

AUTO SURR.
Lights when the Auto Surround feature is switched on.

7 MIDNIGHT / LOUDNESS
When Midnight or Loudness listening is switched on, the corresponding indicator shows in the display.

8 Input source indicators
Light to indicate the input source you have selected.

9 MULTI-ROOM
Lights when the multi-room feature is active.

10 ATT
Lights when INPUT ATT is used to attenuate (reduce) the level of the analog input signal.

11 OVER
Lights to indicate that the level of an analog source is too high. Use the attenuator (INPUT ATT) to reduce it.

12 Master volume level
Shows the overall volume level. –80dB indicates the minimum level, and +12dB indicates the maximum level.

13 DE
Lights when Dialog Enhancement (DIALOG E) is switched on.

14 TUNER indicators

STEREO
Lights when a stereo FM broadcast is being received in auto stereo mode.

MONO
Lights when the mono mode is set using the MPX button.

TUNED
Lights when a broadcast is being received.

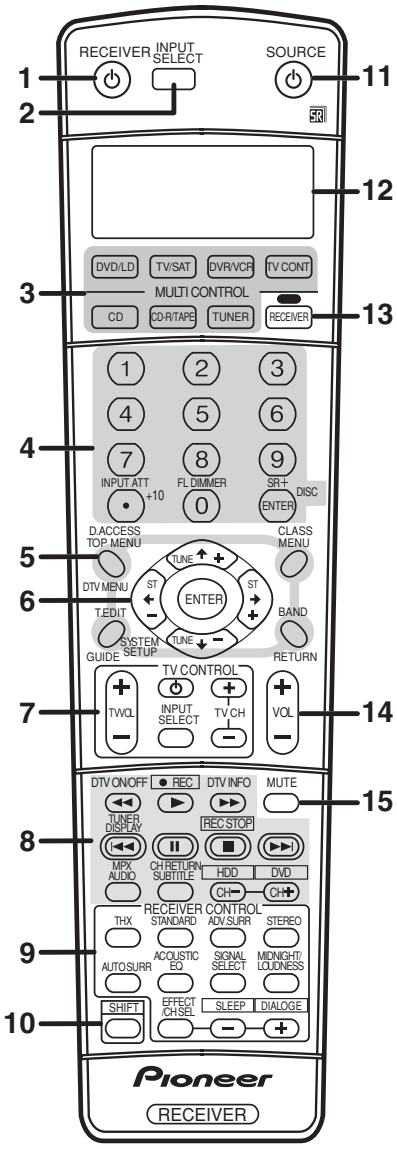
15 Character display
Displays various system information (for example, the reason an operation is not possible may flash in the display).

16 SR
Lights when the SR+ control mode has been switched on (see Using the SR+ mode with a Pioneer plasma display).

17 SLEEP
Lights when the receiver is in sleep mode.

8.3 REMOTE CONTROL UNIT

Remote control



1 RECEIVER ⏻
This switches between standby and on for this receiver.

2 INPUT SELECT
Use to select the input source.

3 MULTI CONTROL buttons
Press to select control of other components.

4 Number buttons and other receiver/component controls
Use the number buttons to directly select a radio frequency or the tracks on a CD, DVD, etc.

DISC (ENTER) can be used to enter commands for TV or DTV, and can also be used to select a disc in a multi-CD player.

The following are accessed by pressing the RECEIVER button first:

INPUT ATT
Attenuates (lowers) the level of an analog input signal to prevent distortion.

FL DIMMER
Dims or brightens the display.

SR+
Switches the SR+ mode on/off.

5 Tuner/component control buttons/SYSTEM SETUP
The following button controls (except SYSTEM SETUP) can be accessed after you have selected the corresponding MULTI CONTROL button (TUNER, DVD/LD, TV/SAT, etc.)

D. ACCESS
After pressing, you can access a radio station directly using the number buttons.

TOP MENU
Displays the disc 'top' menu of a DVD.

DTV MENU
Displays menus on a digital TV.

T. EDIT
Press to memorize and name a station for recall.

GUIDE
Displays the guides on a digital TV.

SYSTEM SETUP
(Press RECEIVER first to access)
Use to access the System Setup menu.

CLASS
Switches between the three banks (classes) of radio station presets.

MENU
Displays the disc menu of DVD-Video discs. It also displays TV and DTV menus.

BAND
Switches between the tuner AM and FM bands.

RETURN
Press to confirm and exit the current menu screen (also use to return to the previous menu with DVDs or to select closed captioning with DTV).

6 ⇦⇨⇩⇧ (TUNE/ST +/–) /ENTER

Use the arrow buttons when setting up your surround sound system. Also used to control DVD menus/options and for deck 1 of a double cassette deck player. Use the TUNE +/– buttons to find radio frequencies and use ST +/– to find preset stations.

7 TV CONTROL buttons

These buttons are dedicated to control the TV assigned to the TV CONT button. Thus if you only have one TV to hook up to this system assign it to the TV CONT MULTI CONTROL button. If you have two TVs, assign the main TV to the TV CONT button.

TV ⏻
Use to turn on/off the power of the TV.

TV VOL +/–
Use to adjust the volume on your TV.

INPUT SELECT
Use to select the TV input signal.

TV CH +/–
Use to select channels.

8 Component control buttons

The main buttons (►,■, etc.) are used to control a component after you have selected it using the MULTI CONTROL buttons.

The controls above these buttons can be accessed after you have selected the corresponding MULTI CONTROL button (for example DVD/LD, DVR/VCR or TV/SAT (when connected to a DTV)).

DTV ON/OFF
Switches a digital TV on/off.

DTV INFO
Use to bring up information screens on a digital TV.

TUNER DISPLAY
Switches between named station presets and radio frequencies.

MPX
Switches between stereo and mono reception of FM broadcasts. If the signal is weak then switching to mono will improve the sound quality.

AUDIO
Changes the audio language or channel on DVD discs.

CH RETURN
Returns to the last channel selected with DTV, SAT and some TVs.

SUBTITLE
Displays/changes the subtitles included in multilingual DVD-Video discs.

CH +/–
Use to select channels when using a TV, VCR, DVR, etc.

The following DVR controls can be accessed by pressing SHIFT:

● REC
Starts recording.

REC STOP
Stops recording.

HDD/DVD
These buttons switch between the hard disk and DVD controls for DVD/HDD recorders.

9 RECEIVER CONTROL buttons

THX
Press to select a Home THX listening mode

STANDARD
Press for Standard decoding and to switch between the various Pro Logic IIx and Neo:6 options.

ADV. SURR
Use to switch between the various surround modes

STEREO
Switches between direct and stereo playback. Direct playback bypasses the tone controls and any other signal processing for the most accurate reproduction of a source.

AUTO SURR
Press to have the receiver automatically detect what kind of source you're playing and select multichannel or stereo playback as necessary.

ACOUSTIC EQ
Press to select an Acoustic Calibration EQ setting

SIGNAL SELECT
Use to select an input signal.

MIDNIGHT/LOUDNESS
Use Midnight when listening to movie soundtracks at low volume. Use Loudness to boost the bass and treble at low volume.

EFFECT/CH SEL
Press repeatedly to select a channel, then use –/+ to adjust the level. Also adjusts the level of the Advanced Surround effects as well as Dolby Pro Logic IIx Music and Neo:6 Music parameters. You can then use the + and – buttons to make these adjustments.

+/–
Use to adjust the effect and channel levels, as well as to change Dolby Pro Logic IIx and Neo:6 Music parameter settings.

SLEEP (SHIFT & –)
Use to put the receiver in sleep mode and select the amount of time before the receiver turns off

DIALOG E (SHIFT & +)
Use to make dialog stand out when watching TV or a movie.

10 SHIFT
Press to access the DVR controls (above the component control buttons) as well as some RECEIVER controls.

11 ⏻ SOURCE
Press to turn on/off other components connected to the receiver.

12 Character display (LCD)
This display shows information when transmitting control signals.

The following commands are shown when you're setting the remote to control other components.

SETUP
Indicates the setup mode, from which you choose the options below.

PRESET

LEARN

DIRECTF

ERASE

RESET

READ ID

13 RECEIVER
Switches the remote to control the receiver (used to select the green commands above the number buttons (INPUT ATT, etc). Also use this button to set up surround sound.

14 VOL +/–
Use to set the listening volume.

15 MUTE
Mutes the sound or restores the sound if it has been muted (adjusting the volume also restores the sound).

Operating range of remote control unit

The remote control may not work properly if:

- There are obstacles between the remote control and the receiver's remote sensor.
- Direct sunlight or fluorescent light is shining onto the remote sensor.
- The receiver is located near a device that is emitting infrared rays.
- The receiver is operated simultaneously with another infrared remote control unit.